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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $6.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 79, No. 22 | 535 North Dearborn Street, CHICAGO, ILL. | NOVEMBER 25, 1922

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 79, No. 22 CHICAGO, ILLINOIS NOVEMBER 25, 1922

DIFFERENTIAL DIAGNOSIS OF LOBAR PNEUMONIA AND APPENDICITIS IN CHILDREN *

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AND
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Although lobar pneumonia is generally conceded to be one of the easiest diseases in which to make a correct diagnosis, it is well recognized that its differentiation in the early stages, and particularly in children, from one or two quite remote conditions, notably so-called surgical conditions of the abdomen and cerebrospinal meningitis, is not always simple. Much has been written on this subject, but the frequency with which the diseases are confounded, in both general and hospital practice, the relative frequency with which patients with early pneumonia are subjected to unnecessary surgery, and the importance from a therapeutic standpoint of establishing immediate diagnosis, have made it seem worth while to review the records of a series of such cases in the hope of being able to point out what clinical features are of the greatest significance in differentiating the two conditions. Only children between the ages of 2 and 15 have been considered.

All of the patients with lobar pneumonia in this age group admitted to the pneumonia service between Sept. 1, 1920, and April 9, 1922, have been studied; and since by far the most common error is that of mistaking lobar pneumonia for appendicitis—we have never seen appendicitis wrongly diagnosed as pneumonia—we have, for purposes of comparison, studied the records of the sixty-three most recent patients with acute appendicitis, with or without abscess or peritonitis, admitted to, and operated on in the four general surgical services prior to April 15, 1922.

The records were analyzed with a view to determine the diagnosis under which the patients were sent to the hospital, the presence or absence of important symptoms and signs referable to the respiratory, the gastrointestinal and the central nervous systems, and the polymorphonuclear leukocyte count. First has been charted a summary of the entire series of lobar pneumonia cases; next, a summary of those cases in the lobar pneumonia group in which the patients were sent to the hospital with diagnoses either of acute appendicitis or of acute surgical conditions of the abdomen, or in which this diagnosis was made on the admitting floor, and then of those cases in the same group in which a diagnosis of cerebrospinal meningitis was made either by the outside physician or by the admitting physician in the hospital.

The cases of appendicitis are listed in three groups: acute appendicitis, acute appendicitis with abscess, and perforated appendix with peritonitis.

DIAGNOSIS

Of the total series of 145 lobar pneumonia patients, it is interesting to note that only sixty-six, or 45.5 per cent., were sent to the hospital with the diagnosis of bronchopneumonia or lobar pneumonia; but it is startling to observe that twenty-five, or 17.6 per cent., were either sent in with a diagnosis of appendicitis, admitted with that diagnosis, or were about to be operated on for that condition when seen by the pneumonia service. This figure is much higher than in adults, as shown by Abrahams,[1] who found that in a series of 558 cases of lobar pneumonia in adults, only seven, or 1.4 per cent., were admitted as appendicitis. In many of our cases there was some doubt in the mind of the visiting surgeon as to whether there were sufficient abdominal signs to warrant exploration; but in some, abdominal symptoms and signs were so striking that even in the face of a definite diagnosis of lobar pneumonia made by the pneumonia service, there was reluctance on the part of the surgeon to postpone abdominal exploration. Seven patients, or 4.8 per cent., were sent in with the diagnosis of cerebrospinal meningitis, chiefly, as will be observed later, because of the presence of delirium.

It must be borne in mind that a large proportion of these children arrived at the hospital unaccompanied by a parent or other adult capable of giving an intelligent history, and that the older children, who under more favorable circumstances might have been depended on, were usually too frightened and excited to warrant much dependence being placed on their stories. Some of the histories analyzed were obtained from one day to a week after the patient had been admitted. The necessity not uncommonly arose of making the diagnosis on the basis of physical examination and laboratory findings alone. In these instances roentgenologic examinations would have been of assistance in ruling out consolidation in the lungs; but since immediate roentgenograms were seldom available, this method of obtaining evidence has been left out of consideration.

* From the pneumonia service of the Boston City Hospital.
* Read before the Medical Society of the District of Columbia, Nov. 8, 1922.

1. Abrahams, A.: Lobar Pneumonia: A Clinical Analysis of Five Hundred and Fifty-Eight Consecutive Cases, Lancet 2: 543 (Sept. 11) 1920.

RESPIRATORY SYMPTOM

The respiratory symptoms on which stress was laid were the presence of "cold," that is, coryza, running nose, pharyngitis or other low-grade infection of the upper respiratory tract, prior to the onset of the more acute symptoms; cough, with or without sputum, and pain in the chest, with or without relation to respiration.

The figures in the first two groups show a striking similarity. A history of previous "cold" occurred in 25.7 per cent. in the first series, and 24 per cent. in the second; cough in 75.8 per cent. in the first series, and 88 per cent. in the second, and chest pain in 44.1 per cent. in the first series, and 40 per cent. in the second. If a relation between chest pain and respiration or cough can be established, this is an important differential point, as it immediately draws attention to the possibility of pleural inflammation; but as a general rule, except in the older children, it was impossible to develop this point. Consequently, in going over the series, chest pain has been recorded as such without attempt to define it further. Raising of sputum has been relatively uncommon. The figures for the patients with lobar pneumonia, admitted as having meningitis, also show a similarity to the entire pneumonia series with the exception of previous cold, which was present in none of the seven cases.

In contrast with the foregoing figures, only one patient of the sixty-three operated on for acute abdominal conditions showed cough, and none gave a history of other respiratory symptoms. It must be borne in mind, however, that in these patients the respiratory history was probably not carefully taken. But it seems apparent that a history suggesting respiratory disease, particularly cough and chest pain, if obtainable, is strong evidence in favor of lobar pneumonia as opposed to surgical conditions of the abdomen; but these symptoms were not present in a sufficient proportion of the pneumonia cases to permit their absence being considered as a differential point against lobar pneumonia.

GASTRO-INTESTINAL SYMPTOMS

Abdominal pain, vomiting and diarrhea constitute the abdominal symptoms studied. As in the case of chest pain, the attempt was made to classify abdominal pain more accurately, particularly with regard to location, type and influence of respiration; but here again the records were seldom clear, probably in most cases because accurate information could not be obtained from the children. The inability of the young to locate abdominal pain accurately, or their tendency to refer it to the umbilical region, is too well recognized to warrant further comment. In many cases, both of pneumonia and of appendicitis, the child will point to the midabdomen as the place where pain exists, and occasionally we have seen the child locate the pain on the side opposite that on which the lesion existed. This has also been noted by Pastore,[2] Dunn [3] and others. Our impression is, however, that the older children have a tendency to locate the pain higher in pneumonia than in appendicitis, and that a history of increase of pain on inspiration can occasionally be obtained. In the younger children it is quite impossible to get much of an idea concerning the type of pain. Of two differences, however, we are quite certain: The pain in the pneumonia case, when present, is always more severe, more distressing, and usually persists for several days, whereas that in the uncomplicated appendicitis cases causes much less discomfort and is not uncommonly intermittent. Other writers disagree on these points. Dunn agrees that the appendicitis pain is likely to be paroxysmal, but Brennemann,[4] although he states that the pain is less decisive in appendicitis than in the respiratory infections, believes that it is more likely to be paroxysmal in the latter type of disease. The figures show that in the entire series of lobar pneumonia cases, pain occurred in 34 per cent., as opposed to 84 per cent. of the cases of pneumonia wrongly diagnosed as appendicitis, and in 100 per cent. of the proved cases of appendicitis.

The similarity is even more striking in the figures for vomiting. This occurred in 59.3 per cent. of all the pneumonia cases, as opposed to 76 per cent. of the cases wrongly diagnosed as appendicitis, and 71.4 per cent. of those wrongly diagnosed as meningitis. Vomiting, in Abraham's series, occurred in 33 per cent. of the cases of lobar pneumonia in adults. The figures in children are not in accord with statements by Dunn, who says that vomiting is more pronounced in appendicitis, and by Kerley,[5] who reports vomiting as occurring in less than 10 per cent. of pneumonia cases. Still,[6] on the other hand, states that the onset of pneumonia in children is almost always accompanied by vomiting. These figures are to be contrasted with those of uncomplicated appendicitis, in which vomiting occurred in only 60 per cent., and the total sixty-three cases of appendicitis, in which it occurred in only 68.3 per cent. Diarrhea was uncommon, and is of no significance.

It seems safe to conclude, on the basis of these statistics, that the history of abdominal pain and vomiting is of no value in differentiating the two conditions. Furthermore, the frequency of these symptoms in the cases of pneumonia sent in as appendicitis cases indicates unquestionably a causative relation between these symptoms and the mistaken diagnosis. The error is based apparently on the failure to recognize the fact that these symptoms commonly occur in pneumonia.

SYMPTOMS REFERABLE TO CENTRAL NERVOUS SYSTEM

Of the symptoms referable to the central nervous system, there have been listed headache, irritability and delirium. Drowsiness and occasionally convulsions were encountered, but not often enough to warrant consideration. Headache was present in 32.4 per cent. of the lobar pneumonia cases, and in 57.1 per cent. of those sent in which were wrongly diagnosed as meningitis; while irritability was present in 15.2 per cent. of the former and 43 per cent. of the latter. There was marked difference in the two series with respect to delirium, which occurred in 14.5 per cent. of the first series and 85.7 per cent. of the second. It was unquestionably one of the chief causes of the mistaken diagnosis. These symptoms were absent in the true surgical cases.

THE LOOKS OF PNEUMONIA PATIENTS

As time has gone on and we have had the opportunity of observing an increasing number of these

2. Pastore, S.: Abdominal Reflexes with Pneumonia, Policlinico (sez. prat.) **27**: 1406 (Dec. 6) 1920; abstr. J. A. M. A. **76**: 276 (Jan. 22) 1921.
3. Dunn, C. H.: Pediatrics, Troy, N. Y., Southworth Company, **2**: 144.
4. Brennemann, Joseph: Abdominal Pain in Children, Surg., Gynec. & Obst. **34**: 344 (March) 1922.
5. Kerley, C. G.: Practice of Pediatrics, Philadelphia, W. B. Saunders Company, 1912, p. 254.
6. Still, G. F.: Diseases of Children, Ed. 3, London, Oxford University Press, p. 378.

patients, we have become more and more impressed with the value of what we have called the "looks" of the patient. The children with pneumonia always look extremely sick, quite the opposite of the surgical patients, who, except in advanced cases of peritonitis, and not all of these, fail to give this impression. The pneumonia patients are fussy and irritable, and show a distaste for being examined and a tendency to complain whenever or wherever touched.

Respirations are always in accord with the textbook picture: short, rapid, shallow, and usually accompanied by the characteristic expiratory grunt; we consider the respiratory movements a very important differential point. In some instances one sees a difference in respiratory excursion on one side as compared with the other, but this is by no means a constant finding. Of much more significance is the tendency of the child to costal or abdominal breathing. The former is present when the seat of the trouble is below the diaphragm, and the latter when the reverse is true. In other words, there is a definite attempt on the part of the patient to immobilize, so far as respiratory excursion is concerned, the part primarily affected.

In pneumonia the face is usually flushed, and the alae nasi are dilated. Herpes, if present, is strong evidence in favor of pneumonia, but it is so uncommon a finding that its absence is of no significance.

The child with appendicitis, as a rule, lies quietly in bed, if left alone, complains of nothing, and shows signs of varying degrees of discomfort only when the abdomen is palpated. Respirations are quiet, seldom increased, and never appear to be associated with the pain.

We have admitted children as lobar pneumonia patients on the clinical picture just outlined in the absence of a reliable history and in the absence of definite physical signs; these have usually been demonstrable later.

Freeman[7] says:

> The best opinion is that a positive diagnosis [of pneumonia] in children can be made without the presence of physical signs in the chest when there exist several of the following symptoms—fever, overactivity of alae nasi, pneumonic type of respiration with a pause at the end of inspiration accompanied by an expiratory grunt, a relationship between respiration and pulse approximating 1 to 3, and particularly if there is the added sign of rigidity of the upper extremities with no rigidity of the lower extremities, an effort on the part of the child to protect a sore chest. . . . Pneumonias have been discovered when no physical signs of their existence have been found; and even after their demonstration by roentgen ray, the determination of the pneumonia by subsequent physical examination has proved negative.

The signs of rigidity of the extremities which he describes we have failed to notice, probably because until recently they have not been brought to our attention.

Heiman[8] reports eight cases in which no physical signs were elicited, but which presented the clinical picture of pneumonia, and in which the roentgen ray revealed the presence of lesions in the lung. Blauner,[9] on the other hand, believes that "central pneumonia does not exist; if pneumonia is there, we can find it." He states that it is not right to make a diagnosis in the absence of physical signs.

RECORD OF CASES OF LOBAR PNEUMONIA AND ACUTE APPENDICITIS

	All Cases of Lobar Pneumonia (Total 145)		Cases of Lobar Pneumonia Sent in as Appendicitis or Acute Abdominal Condition (Total 25)		Cases of Lobar Pneumonia Sent in as Meningitis (Total 7)		Acute Appendicitis (Total 42)		Acute Appendicitis with Abscess (Total 5)		Perforated Appendix with Peritonitis (Total 16)	
Sent to Hospital with Diagnosis of:	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Pneumonia	66	45.5	..	....	..	....	..	....	..	....	..	....
Observation	35	24.1	..	....	..	....	..	....	..	....	..	....
Meningitis	7	4.8	..	....	7	100.0	..	....	..	....	..	....
Appendicitis or acute abdominal condition	25	17.6	25	100.0	..	....	42	100.0	5	100.0	16	100.0
Influenza	4	2.7	..	....	..	....	..	....	..	....	..	....
Pleurisy	3	2.0	..	....	..	....	..	....	..	....	..	....
Empyema	2	1.3	..	....		....	..	....	..	....	..	....
Ptomain poisoning	2	1.3	..	....	..	....	..	....	..	....	..	....
Otitis media	1	0.7	..	....	..	....	..	....	..	....	..	....
Chest Symptoms:												
Cold	37	25.7	6	24.0	..	....	..	....	..	....	..	....
Cough	110	75.8	22	88.0	4	57.1	1	2.3	..	....	..	....
Chest pain	64	44.1	10	40.0	3	42.9	..	....	..	....	..	....
Sputum	16	11.0	3	12.0	2	28.6	..	....	..	....	..	....
Abdominal Symptoms:												
Abdominal pain	49	34.0	21	84.0	1	14.3	42	100.0	5	100.0	16	100.0
Vomiting	86	59.3	19	76.0	5	71.4	25	60.0	4	80.0	14	88.0
Diarrhea	6	4.1	1	4.0	..	....	..	....	..	....	..	....
Meningeal Symptoms:												
Headache	47	32.4	7	28.0	4	57.1	2	4.7	..	....	..	....
Irritability	22	15.2	6	24.6	3	42.9	..	....	..	....	..	....
Delirium	21	14.5	1	4.0	6	85.7	..	....	..	....	..	....
No history obtained	5	3.4	..	....	..	....	..	....	..	....	..	....
Looks like pneumonia	141	97.2	25	100.0	7	100.0	..	....	..	....	..	....
Herpes	26	18.0	5	20.0	3	43.0	..	....	..	....	..	....
Chest Signs:												
None on admission	11	7.6	..	....	..	....	..	....	..	....	..	....
Early	46	31.7	14	56.0	4	57.1	..	....	..	....	..	....
Definite	88	60.0	11	44.0	3	42.9	..	....	..	....	..	....
Abdominal signs	33	23.0	19	76.0	..	....	42	100.0	5	100.0	16	100.0
Meningeal signs	11	7.6	3	12.0	4	57.1	..	....	..	....	..	....
Number of cases with white blood count done	143	99.0	24	96.0	7	100.0	35	81.0	5	100.0	12	75.0
White Blood Count:												
Below 15,000	14	9.8	1	4.1	1	14.3	32	91.5	1	20.0	2	16.6
15,000 to 20,000	34	23.8	6	25.0	4	57.1	3	8.5	1	20.0	9	75.0
Above 20,000	95	66.5	17	70.9	2	28.6	..	....	3	60.0	1	8.3

The percentage of white blood corpuscles is based on the cases in which a white blood count was made.

7. Freeman, R. G.: Pneumonia in Infancy and Childhood Without Physical Signs, Arch. Pediat. **37**: 11 (Jan.) 1920.
8. Heiman, Henry: A Study of Pneumonia in Infancy and Childhood During Recent Epidemics, Tr. Am. Pediat. Soc. **33**: 117-125, 1920; Am. J. Dis. Child. **20**: 119 (Aug.) 1920.
9. Blauner, S. A.: Physical Signs of Pneumonia in Children, New York M. J. **112**: 1032 (Dec. 25) 1920.

In a few instances in which we admitted children as pneumonia patients without physical signs we were wrong, the cases turning out to be acute infections, apparently of the upper respiratory tract. But it has been a much more common error for us to admit to the pneumonia service children who, we thought, did not "look like" pneumonia patients, but in whom we believed, after careful search, that signs of early pneumonia could be demonstrated. These suspected signs were usually found high in the axilla, or behind the scapula; but when we observed that several did not develop into anything more definite, we adopted the policy of not hunting for signs in patients who, we thought, did not look the part. Wilcox [10] calls attention to the fact that differences in auscultation and percussion peculiar to certain areas of the chest due to physiologic causes are exaggerated in children. It is interesting to observe that signs which we misinterpreted were usually found in the areas which he emphasizes. On the other hand, when we thought that the case did look like pneumonia, careful search usually revealed signs which later proved to have been those of early consolidation. We invariably spent several minutes merely watching the child as it lay on the bed or examining table before bringing into play the other methods of physical diagnosis, and of the 145 cases the records of 141, or 97.2 per cent., contain the definite statement that the patient "looks like pneumonia."

Admission temperature and pulse rate are always of value. The pneumonia patients seldom show a temperature below 102 F.; usually it is 103 or above, and the pulse varies from 100 to 140. The children with appendicitis, even including those with peritonitis or abscess, but particularly in the uncomplicated cases, show a surprising lack of systemic disturbance; the temperature is frequently not over 99, rarely over 101, and the pulse seldom over 100 to 110. An increase of the respiration-pulse ratio from 1:4 to 1:3 or 1:2 is usually evidence in favor of pneumonia.

Herpes was present in 18 per cent. of the pneumonia cases and in none of the appendicitis cases, and can consequently be used as added evidence in favor of pneumonia, when present; but its absence is of no significance. As differentiating between pneumonia and meningitis, of course, it is of no value.

Lung signs have been classified under the heading of "no signs," early signs and definite signs. The first group is self-explanatory: it includes cases in which after careful search, no definite signs of pathologic change could be made out in the lungs. Eleven patients, or 7.6 per cent., were admitted without signs in the lungs, and all developed them later. The early signs on which we have been most dependent have been slight changes in the percussion note, or in the quality and intensity of the breath sounds or whispered voice. Slight or moderate dulness, usually made out only by light percussion, has frequently been the only clue; at other times a slight change in breath sounds over a small area has been the only suggestive sign, but we have frequently, in the presence of other factors, considered one of these signs, or the two occurring together, sufficient to warrant the diagnosis of lobar pneumonia. The first variation of the breath sound is customarily a slight prolongation of the expiratory murmur with a just perceptible rise in pitch in both phases. The change is usually heard over an area no larger than a half-dollar. Usually the sounds over the affected area are diminished. If the children are old enough to be cooperative, the change is brought out more clearly by whispered voice, and in cases in which there is a respiratory grunt, one can often hear, over the affected area, a blowing sound, following the actual grunt, which is somewhat comparable to the soft apical systolic murmur heard in the heart. These signs are of much more value over the lower than the upper portions of the lung, and it cannot be too strongly emphasized that they must be interpreted with caution, particularly when heard over the upper lobes, or in cases in which the general picture is not that of pneumonia. More than half the cases of pneumonia wrongly sent in as appendicitis were found to have signs no more convincing than those just mentioned, whereas, of the entire series of pneumonia, only 31.7 per cent. showed only early signs. If those showing no signs are included, however, we find a total of 39.3 per cent. admitted as pneumonia who failed to show definite signs. The importance of recognizing these early signs is based on the generally accepted fact that more definite signs of solidification may appear not at all, or frequently not until late in the disease.

The term "definite signs" includes the cases which showed unmistakable dulness with varying degrees of bronchial breathing, with or without râles. Changes in vocal or tactile fremitus are usually present in this group, but are seldom made out in the early cases. Occasionally a friction rub can be heard before signs, even of early consolidation, are present.

EXAMINATION OF APPENDICITIS PATIENTS

Signs in the abdomen are confusing. In reviewing the records, at first we attempted to classify tenderness and spasm according to location, degree and type (voluntary or involuntary); but so much depends on the personal equation of the observer, and the records in many instances were so lacking in careful description with regard to these facts, that it was finally decided to classify, under the general heading of abdominal signs, tenderness, spasm or rigidity, irrespective of their location and qualifications. Of the 145 cases of pneumonia, thirty-three, or 23 per cent., showed abdominal signs; and of the twenty-five cases in which lobar pneumonia was wrongly diagnosed as appendicitis, they were found in 76 per cent., which much more closely approaches the 100 per cent. figure of the true appendicitis cases.

Tenderness was always present, spasm less frequently. As just stated, no description of the tenderness has been available in either series; but as a result of studying carefully cases of both diseases, we have gained the impression that palpation reveals a different type of tenderness in the two conditions. In pneumonia it seems more severe, more superficial, and is usually not well localized but diffuse over a fairly large segment of the abdomen, although varying in degree over this area. It has a tendency, like the pain, to be situated higher in the abdomen. Frequently the child jumps or cries as soon as the abdomen is touched, and deeper pressure does not add to the discomfort; the part affected seems superficial rather than deep, and at times almost suggests a hyperesthesia. The tenderness in the uncomplicated appendicitis case may be slight; it is always less impressive than that of pneumonia, and is more readily localized, usually to a small area in the right lower quadrant. It gives the impression of being deeper in the abdomen, and fre-

10. Wilcox, H. B.: Some Peculiarities in the Symptomatology of Childhood, Arch. Pediat. 37: 577 (Oct.) 1920.

quently considerable pressure must be exerted by the palpating hand before the child shows real signs of discomfort. In the abscess case, tenderness is usually more acute; in the peritonitis case it is generally diffuse, but frequently less marked than would be expected. Dunn [3] states that tenderness is more difficult than pain to recognize and localize in the appendicitis case.

What has just been said concerning tenderness applies in a general way to spasm as well. Whether spasm, particularly in the pneumonia cases, is voluntary or involuntary is frequently difficult to determine, but at times it can be worked out by palpation at the end of expiration, when, for a brief moment, the muscles are relaxed. With this exception, the abdominal muscles, when involved in the picture, are usually held more rigidly in pneumonia than in complicated or uncomplicated appendicitis. This was usually found in cases in which the pneumonia involved one of the lower lobes, or the right middle lobe, although occasionally it was seen in upper lobe infections. When the condition was marked, and particularly when the type of respiration suggested to us the possibility of extensive pleural inflammation or inflammation of the diaphragmatic pleura, peritonitis was usually suspected. It is interesting to note that these cases seemed to show more of a tendency to later development of empyema, and the common association of the two conditions is rather striking.

All the patients with acute appendicitis, complicated or uncomplicated, were recorded as having tenderness or spasm. No further description has been found in any of the surgical records. In seeing these patients before operation, however, we have been constantly struck by the mildness of the abdominal picture. We can recollect patients in whom spasm could be called present only by a considerable stretch of the imagination; and even in cases of general peritonitis, spasm and tenderness have frequently been less prominent than would have been expected had conditions found in the abdomen at operation been known in advance.

Another important sign is localized tenderness on palpation through the rectum, which, if present, is strong evidence in favor of appendical inflammation. We have no record of the number of instances in which this examination was made, but recall several cases in which the presence of pain on rectal examination was a strong factor in favor of the diagnosis of appendicitis. Fraser [11] calls attention to two signs which he regards as of significance. The first he calls "opposite side palpation": on pressing the hand into the left side of the abdomen, if the origin of the pain is abdominal, an accentuation is referred to the site of the infection; but if the pain is thoracic, no alteration in pain is produced. The second, which he calls the "collar test," is based on the development of the diaphragm: irritation of this muscle is referred along the distribution of the fourth cervical nerve, and an area of hypersensibility can be marked out. This is absent in high appendicular infections, but is present in "pleuropneumonic" conditions.

THE LEUKOCYTE COUNT

The presence of a high leukocyte count is usually thought of as evidence in favor of the diagnosis of a surgical condition of the abdomen. We have been surprised to find how frequently it is not at all, or only slightly, elevated in these cases. White counts have been arbitrarily listed as less than 15,000; from 15,000 to 20,000, and 20,000 and above. Of the entire pneumonia series, 66.5 per cent. showed a count of 20,000 and above, and 23.8 per cent. between 15,000 and 20,000, making a total of more than 90 per cent. of the pneumonia cases which showed white counts above 15,000.

In contrast with this, the cases of uncomplicated appendicitis showed only 8.5 per cent. above 15,000; none above 20,000, and the unexpected figure of 91.5 per cent. below 15,000. There was no record of a white count in 16.6 per cent. of this series.

These figures are not in accord with the usual belief. Dunn states that in acute appendicitis a polymorphonuclear leukocytosis of about 20,000 is usually present, while Kerley believes that leukocytosis is always present, and Griffith [12] says that there is a rapid increase in the white blood count, particularly of polymorphonuclears.

Three of the five patients with appendicitis with abscess showed leukocytosis of 20,000 and above; while in more than half of those with peritonitis the white count ranged between 15,000 and 20,000. The figures for this series are of less value, as there was no record of leukocyte examination in a quarter of the cases. There is no question, however, that there is a tendency for the count to run considerably higher in the complicated than in the uncomplicated cases.

The value of the white count, then, seems to lie chiefly in its use as a factor in differentiating between uncomplicated appendicitis and lobar pneumonia. The higher the leukocytosis, the greater the likelihood of the case being pneumonia. When abscess or peritonitis is suspected in the presence of a high white count, one must fall back on other features.

MENINGEAL SIGNS

Seven patients of the lobar pneumonia series were sent to the hospital with a diagnosis of meningitis. In most cases the mistake was made partly because of the presence of headache and delirium, but in four there were signs of meningeal irritation; all of these showed some stiffness of the neck, but none showed Kernig's sign or other reflex abnormality. Spinal fluid examination, of course, is the key to the diagnosis, but in view of the recent work of Weed and his co-workers,[13] we were reluctant to perform lumbar puncture if the diagnosis could otherwise be established. It is impossible, if signs of meningeal irritation are present, to distinguish between true meningitis and meningism, without spinal fluid examination, so that the diagnosis rested entirely on the ability to state definitely whether or not lobar pneumonia was present. Here the history of respiratory symptoms, the appearance of the patient, and the demonstration of early signs of solidification were equally important. The leukocyte count is of no value. The presence of meningeal signs must be disregarded until pneumonia has been ruled out.

SUMMARY

1. A series of 145 cases of lobar pneumonia in children, aged from 2 to 15, has been studied to determine the most common sources of error in diagnosis, and the signs and symptoms in early pneumonia

11. Fraser, John: Abdominal Emergencies of Childhood, Brit. M. J. 1: 173 (Feb. 4) 1922.

12. Griffith, J. P. C.: Diseases of Children, Philadelphia, W. B. Saunders Company, 1, 1919.

13. Weed, L. H.; Wegeforth, Paul; Ayer, J. B., and Felton, L. D.: A Study of Experimental Meningitis, Monograph 12, Rockefeller Inst. M. Res., March 25, 1920.

which are of the greatest value in reaching the correct diagnosis. For purposes of comparison, a series of sixty-three cases of proved appendicitis has been reviewed.

2. Of the cases of lobar pneumonia, 17.5 per cent. had at one time or another been wrongly diagnosed as acute appendicitis or surgical condition of the abdomen, and 4.8 per cent. as cerebrospinal meningitis.

3. A history of cough or pain in the chest points toward a diagnosis of pneumonia, but the absence of respiratory symptoms does not rule out this disease. A history of vomiting, abdominal pain and diarrhea is of no value, as these occur as frequently in pneumonia as in abdominal conditions.

4. The pneumonia patients always seem more ill and present a characteristic general picture not seen in the abdominal cases. If recognized, this is a very important differential point.

5. Pneumonia patients show much more of a systemic reaction, as seen by pulse and temperature chart, than do the abdominal cases.

6. Careful examination of the lungs will frequently reveal a small area suggesting early solidification; but if it is located in the upper half of the chest, or in patients who do not otherwise present the picture of pneumonia, it must be interpreted with caution. Abdominal tenderness and spasm are relatively frequent in pneumonia, but are of a type dissimilar to those found in acute abdominal conditions.

7. A high leukocyte count favors the diagnosis of pneumonia except when peritonitis or appendix abscess is suspected, in which case it is of no value in differentiating the condition from pneumonia.

8. In the presence of symptoms or signs of meningeal irritation, lobar pneumonia should be ruled out before lumbar puncture is done.

HYPERACIDITY OF THE GASTRIC CONTENTS IN CHILDREN *

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Exhaustive studies, voluminous literature and a great deal of discussion have centered around the condition known as hyperacidity of the stomach in the adult. That a similar condition may occur in the earlier years has evidently not been appreciated, if we are to judge by the attention paid to the disorder as we find it in children.

SYMPTOMATOLOGY

The symptoms, in their order of frequency, that bring the child to the pediatrician, are: abdominal pain that has not been relieved by previous treatment; nausea without vomiting; vomiting at irregular intervals, and loss of appetite.

The pain occurs most often before meals when the stomach is supposedly empty. In many, pain is complained of before the morning meal. In some, the child is awakened early because of the abdominal discomfort. When asked to locate the pain, the child usually places the hand over the abdomen above the umbilicus. In some, the pain is of a colicky character sufficiently severe to cause the child to cry.

Vomiting.—With the pain there may be daily morning vomiting, or the vomiting may occur independently of pain, or the child is nauseated and vomits before the meal or immediately after. Breakfast is usually the meal vomited.

Nausea.—In some there is neither vomiting nor pain, the condition manifesting itself by nausea, most prominent before meal time, which may be relieved by taking food.

Appetite.—The appetite is variable. In most instances it is very defective, and the child has to be urged to eat. In others, the child will be eager for food but is satisfied by a few mouthfuls; a feeling of fulness is complained of, and further feeding must be urged.

Many children with an habitually poor appetite are victims of hyperacidity.

Nausea and Eructation of Gas.—This combination is not infrequently seen, and is almost always associated with an indifferent and capricious appetite. Eructations of gas, and belching may be the only symptoms complained of. I have had mothers tell me that the eructation was so pronounced as to be embarrassing.

Constipation.—This is usually present; probably the small food intake has much to do with this. In those in whom the condition has existed for a considerable time there is malnutrition and anemia due to the defective food intake. In mild cases the appetite alone will be involved.

Etiology.—Dietetic errors will usually be found responsible for the disorder, but not invariably. In addition to the usual bad feeding habits, that of unsuitable food at irregular hours, eating between meals and the liberal patronage of confectionery stores and soda fountains, there will be the story of the habitual use of orange juice in liberal amounts on an empty stomach before the first meal, or the condition may be due to the use of orange juice alone on an empty stomach before breakfast. The orange juice is taken cold and undiluted, and supplies sufficient irritant to produce a hyperacidity.

Stomach.—Hypomotility and pylorospasm, both conditions not uncommon in children, cause delayed emptying of the stomach beyond the four hours that is the normal evacuation time for the runabout child. This gives rise to gastric retention, which causes hyperacidity. We have studied 109 children in regard to this point by means of the roentgen ray, using the stomach tube as a control in several of the patients. We find operative also the short period allowed between the first and second meal of the day. On account of family habits or because the child is a late sleeper, the first meal is delayed and not completed before 8:30 or 9 o'clock. The second meal is given promptly at 12 or 12:30, all of which means that the second meal is given before the first meal has entirely passed through the pylorus, and again there are retention and hyperacidity. In order that there may be a good appetite and normal digestion, there must be no food residue in the stomach when a meal is given. Further, we have found that a rest period or interdigestive period of from half to one hour is required, in order that the stomach functions may be carried on normally. It is to be understood that the rest period refers to an empty stomach.

In sixty-seven recent cases of chronic stomach disorders we have insisted on the test meal and gastric analysis, and have been surprised at the cooperation of

* Read before the Section on Diseases of Children at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

the parents. This is to be accounted for probably by the fact that the child is brought independently or is referred by the family physician for a condition which is believed to be serious.

EXAMINATION OF GASTRIC CONTENTS

Test Meal.—The test meal consists of 2 ounces (60 gm.) of dried bread and 6 ounces (178 c.c.) of weak tea. In one hour the stomach contents are removed by the stomach tube.

The Preparation of the Patient.—The child is wrapped snugly in a rubber sheet, primarily to prevent struggling and secondarily to prevent soiling of the clothing, by material vomited along the sides of the tube and by the profuse secretion of saliva. The child is held firmly by the assistant. After the tube has been moistened in warm water, it is passed to the posterior part of the pharnyx. Older children are asked to swallow, but in the younger it is necessary to pass the tube without cooperation. A certain definite resistance is encountered when the tube strikes the greater curvature of the stomach. Usually the evacuation of the stomach contents begins immediately. The flow is accelerated by coughing, crying and vomiting. It is frequently necessary to begin the evacuation by aspiration. We find the Hess bulb satisfactory for this procedure.

Technic of Gastric Analysis.—Three separate portions of 10 c.c. of unfiltered gastric juice are placed in three small beakers. To the first portion three or four drops of phenolphthalein are added, and this is titrated with tenth-normal sodium hydroxid until a deep permanent purple is obtained. The number of cubic centimeters of tenth-normal sodium hydroxid used in titrating is then multiplied by 10, giving the total acidity of 100 c.c. of gastric contents. Three or four drops of alizarin is added to the second beaker, and this is titrated until a permanent violet is obtained, when the reading on the buret is made. This result is subtracted from the number of cubic centimeters used with phenolphthalein as the indicator. This is multiplied by 10 to obtain the amount of combined hydrochloric acid in 100 c.c. of gastric juice. To the third beaker, three or four drops of Toepfer's reagent is added, and this is titrated until the red disappears and yellow makes its appearance. The buret is read and the result multiplied by 10. This gives the amount of free hydrochloric acid in 100 c.c.

Results of Examination of Gastric Contents.—Among sixty-seven cases, forty-four showed a total acidity over 60; thirty-six, over 70; twenty-four, over 80; three, over 90, and two, over 100. The two cases showing a total acidity over 100 were those in which there was a food residue remaining from the meal prior to the test meal. Of the twenty-three that were under 60, the findings were: fourteen between 50 and 60; four between 40 and 50; four between 30 and 40, and one between 20 to 30. We have come to look upon the normal acidity in children as ranging between 30 and 40.

In the same series we determined the amount of free hydrochloric acid in the gastric contents of fifty-nine patients. Fifteen showed the amount of free hydrochloric acid to be between 1 and 10; seventeen, 10 and 20; eight, between 30 and 40; four, between 40 and 50; two, between 50 and 60; three, between 60 and 70, and one, between 70 and 80. There were but three cases in which we found an absence of free hydrochloric acid in those investigated.

MANAGEMENT

Three full meals are allowed: breakfast at 7:30 a. m., dinner at 12:30, a cracker at 3:30 and supper at 6 p. m. Raw fruits, fruit juices and condiments are forbidden. Solids and liquids are to be given neither very hot nor very cold. Ice cream and all iced drinks are excluded. Sugar is used scantily. Medication consists of a powder composed of sodium bicarbonate and bismuth subcarbonate, 2 grains (0.13 gm.), and magnesium carbonate, 1 grain (0.065 gm.) is given with a half glass of warm water fifteen minutes before each meal. If constipation is a factor, from 15 to 30 drops of aromatic fluidextract of cascara sagrada is given after each meal, and not in one dose at bedtime.

Results of Treatment.—The outcome of the treatment has been most satisfactory. Children rarely have gastric, pyloric or duodenal ulcers. Malignant disease of the stomach is so rare an occurrence that it can be excluded. They are promptly relieved with few exceptions, but the diet and the medication should be continued for several weeks. We have known relapses to occur a year or more after the cessation of treatment. When there has once been a definite hyperacidity, there is a strong tendency for it to return, and some of these patients are unquestionably in line for surgical procedure later in life.

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ABSTRACT OF DISCUSSION

DR. JOHN ZAHORSKY, St. Louis: I became interested in hyperacidity of the stomach in infants many years ago. I think it was Knoepfelmacher who reported one or two cases of hyperacidity in young children or infants, and I began to study some of these cases. We found, however, that while on the ordinary test meal, or in young children after giving a barley gruel, one can get proof of a hyperacidity in some cases as shown by ordinary test, Toepfer's solution, for example, if one gave this child concentrated milk solution, that is, straight milk or milk containing a great deal of casein, that one could not demonstrate any free hydrochloric acid. In other words, the casein acts as a neutralizer or buffer in neutralizing this hyperacidity. Hyperacidity after an ordinary test meal, as shown by the chemical test, is fairly common; hyperacidity in patients when given a full meal, especially one containing milk, is very rare. Having shown that, I dropped the subject and have not made any test, except that mothers are given, now and then, a paper stained with Toepfer's solution to test the vomitus of the child to see whether the characteristic change appears in this paper. If it does, then they are subjects for further examination. This paper is extremely valuable, but I doubt whether we could accept at once that the hyperacidity in itself was the cause of the symptoms in these cases, especially in those shown by the roentgen ray. One is inclined to think that the hyperacidity is merely the secondary phenomenon, and that there are other factors which need correction first, which Dr. Kerley really has emphasized.

DR. THOMAS C. MCCLEAVE, Oakland, Calif.: The treatment of these patients with pendulous abdomens and general abdominal distress and vomiting consists in raising the beds and having the children sleep in that position on a hard mattress without a pillow. These children treated for this condition always show a condition of enteroptosis. Raising the foot of the bed causes relaxation of muscular spasm and straightens out kinks during sleep, improves the appetite, and causes gain in weight. It is surprising how many children have enteroptosis without symptoms. It is surprising how very universal enteroptosis is in young persons of college age, most of them showing no symptoms, however, referable to that condition. And when one sees how common enteroptosis is in children, it makes one wonder whether the anatomic position of the organs in question has anything to do with the symptoms. In many children the colon is below their iliac crest, and yet they are perfectly well.

Dr. Mary Freeman, Perrine, Fla.: Some one called attention to the fact that cherry red lips indicate hyperacidity, and in my early practice I used blue litmus paper in the mouth to find out whether the saliva was normal or acid. In the majority of cases in which there is disturbance of the alimentary tract I found a very marked hyperacidity; and now I can almost always tell by the cherry red lips and the tongue, when a child is brought to the office or seen for the first time, that there is hyperacidity present. I had used sodium bicarbonate, and I am glad to hear of Dr. Kerley's suggestion of using bismuth. I have also used aromatic cascara after meals. But the blue litmus paper in the mouth will point the direction in which one is going.

Dr. Harry Lowenburg, Philadelphia: That part of Dr. Kerley's paper which deals with the relationship of hyperacidity to anorexia is extremely important and enlightening to me. I think that all of us come in contact with a vast army of children who are brought by their mothers because they will not eat. For my part, I have taken refuge behind the psychic element and have usually confined my advice to a lecture to the parents and to the grandparents and whoever else may form the environment; but Dr. Kerley's reference to hyperacidity as a cause of the anorexia gives us something more tangible to work on, especially since these parents bring the children to us with the hope that we may do something for them aside from reading to them a moral lecture, which usually is of no avail. I think I can plead guilty with a great many others of suspecting worms and many other conditions which perhaps can be ascribed to the hyperacidity to which Dr. Kerley makes reference. My own experience is rather in keeping with that of Dr. McCleave, that is, that not all children who have abnormalities as revealed by roentgen study are the subject of symptoms. I have in mind particularly the son of a physician, who was brought to me by his father, fearing that he had tuberculous peritonitis by reason of the fact that he had large masses in his abdomen, which were readily palpable. In fact, they were so palpable that the boy thought they were bones. This boy proved to have Hirschsprung's disease, of extreme degree, and yet his attitude of living and complexion certainly gave the lie to us who believed that all headaches and obscure pains are due to constipation. I removed from this lad just exactly 17 ounces of feces; and yet he never suffered a symptom. His cecum was so dilated and heavy that it fell over on the left side. The most important part of this paper is the calling of attention to the association of obscure symptoms with the hyperacidity.

Dr. Frank B. Hollenbeck, Lincoln, Neb.: I should like to ask Dr. Kerley what attitude he would assume on the midmorning and midafternoon feeding of milk which is so frequently given in schools in the malnutrition cases.

Dr. Charles Gilmore Kerley, New York: I do not for a moment want to have it inferred that every child who had gastroptosis or abnormalities of the intestinal tract necessarily showed symptoms, or that those cases invariably showed hyperacidity. The point I wish to make is that in these cases of hyperacidity we had these factors present, and the recognition of these factors, plus treatment, is sufficient to give relief very promptly through medication, diet, support of the abdomen, and postural treatment. We not only raise the foot of the bed, but make the child rest on his right side for an hour after meals in the bad cases of stomach ptosis. In addition to that we give a dry meal. We do not give fluid with the meals. We give a dry breakfast and give milk at 11 a. m. and at 3:30 p. m. so as to overcome the overload. The etiology dates back to infancy. They were bottle-fed children, who had been given 8, 10 or 12 ounces of food every two or three hours—a continuous overload with resulting ptosis. There are some children with ptosis that will never show symptoms; others will not until they are 10 or 12 years of age, and others, perhaps, not until they are 25 years old; but when one has such a case with associated symptoms, it is well to recognize it, and then one is in a position to use supportive measures, and carry the case through to a satisfactory conclusion. I have examined a considerable number of ptosed stomachs, tested them out with ordinary meals and with the bismuth test meal, and then we have checked them up. The child has always been given the credit of a normal digestive tract, and when abnormalities are discovered in later life, they have been thought to be due to occupation, incorrect posture and other causes. That the gastric intestinal abnormalities of later life are of congenital origin, in part, or have been acquired in childhood has never been appreciated. These patients have been through different hands. They come to me because they do not grow, and cannot keep up play with their fellows. They fail to show proper growth, as their nutrition is always involved. Hyperacidity is invariably a secondary affair. I do not believe that there is such a thing as a primary hyperacidity in a child. In causing hyperacidity in children, two factors are operative—stomach abuses and malposition, and the roentgen ray is the only means we have of registering mechanical defects.

COAGULABILITY OF THE BLOOD DURING PREGNANCY AND IN THE NEW-BORN*

FREDERICK HOWARD FALLS, M.D.
IOWA CITY

The coagulability of the blood has been studied by a number of physiologists and clinicians in recent years. The reason for this is the great practical importance of hemorrhage as a complication of both medical and surgical conditions. Of the various branches of medicine, none has a more frequent incidence or more serious forms of hemorrhage than obstetrics.

The hemorrhages that the obstetrician may be called on to deal with fall naturally into two classes: maternal, and those occurring in the new-born. Every pregnant woman may have antepartum, intrapartum or postpartum hemorrhage. The blood loss varies from the few hundred cubic centimeters that are lost after every delivery to serious bleedings that may cause a fatal termination in a few minutes. The frequency of bleeding sufficiently severe to be termed a pathologic loss of blood is variously estimated by different authors, but it is safe to say that such bleeding occurs in about 3 per cent. of all cases. The amount lost varies from 500 c.c. to 2 liters or more. The pathologic significance of such blood loss is, according to Williams,[1] slight in the majority of cases, for he believes that the pregnant woman is protected in some obscure way against the deleterious effects of the hemorrhage which, in the nonpregnant woman, would result in grave symptoms. However, he cites cases in which relatively small hemorrhages gave rise to extremely serious symptoms and even death.

Hemorrhages occurring in obstetric cases may be divided into two groups or classes:

1. In the mechanical group, physical defects or alterations of the tissues give rise to a failure of the usual physical mechanism that checks hemorrhage, although the coagulation mechanism may be perfectly competent. Into this group fall cases of abortion; placenta praevia; abruptio placentae; ruptured uterus; ectopic pregnancy; postpartum hemorrhages due to atony, primary or secondary, of the uterine musculature, cervical tears, and rupture or varicose veins of the vagina and vulva. The mechanical factor is relatively frequent in the child following an insecure tie of the cord or a circumcision with improper suture or no suture at all, as in the children circumcised by mohls.

2. In the chemical type, the underlying factor is a failure of the blood to clot firmly in the normal

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1. Williams, J. W.: Am. J. Obst. 80:1 (July) 1919.

physiologic time limits under normal conditions. This type of hemorrhage is seen almost entirely among babies. The cases occur practically always during the first two weeks of life. Bleeding occurs in the form of capillary hemorrhages, and may come from the nasal mucosa, stomach, bowel, urinary tract, umbilical cord or from a circumcision wound. The chemical type of hemorrhage is very rare in the mothers, and I have seen it only in women who have suffered from a severe mechanical hemorrhage which so depletes the elements necessary for coagulation in the blood that the patient continues to bleed even after the mechanical factor has been removed. This accords well with the fact that hemophilia is very rare in the female members of a family, but is transmitted through them to the male members.

This work was undertaken to throw some light on several points:

1. To establish some figures for the coagulation time in normal pregnant and puerperal women and in newborn infants.
2. To determine whether differences exist in the coagulation time of the blood of the mother and fetus at the time of delivery.
3. To determine whether hemorrhagic tendencies in the mother could be detected from a study of the coagulability of the blood at or before the birth of the baby, and a postpartum hemorrhage prognosticated before the bleeding began.
4. To determine whether the coagulation time of the baby's blood at birth would give a clue to the probable occurrence of hemorrhages in the next few days.
5. To determine whether the predisposition to postpartum hemorrhage following ether anesthesia in obstetric cases is due to alterations in the coagulability of the blood.

TECHNIC

The technic used was essentially that of Howell,[2] and was adopted so that the results obtained might be compared with his and with figures obtained by others

TABLE 1.—COAGULATION TIME OF MOTHER'S BLOOD ANTEPARTUM

Case	Coagulation, Minutes	Calcium, Minutes	Prothrombin, Minutes
1	4.5	5	9
2	4	5.5	6
3	4.5	2.5	11
4	5.5	6.5	3
5	4.5	3	5
6	8.5	8.5	5.5
7	3	5	6
8	6	3	4.5
9	5	4	3.5
Average	5	4.5	5.9

using his methods. From a study of the literature on coagulation of the blood, one is struck with the multiplicity of methods and their divergent results, rendering the work of the different writers valueless for comparison. The technical difficulties of making accurate determinations by any method are great enough as it is, and the results obtained are relative, not absolute, so that a standard technic is desirable to minimize the discrepancies.

Three factors were determined in these experiments: calcium time, coagulation time and prothrombin time.

The coagulation time was estimated by placing 1 c.c. of whole blood in a tube recently rinsed with physiologic sodium chlorid solution, and tilting the tube to the horizontal every half minute until the tube could be inverted without losing the clotted blood.

The calcium time was estimated by adding 1 c.c. of whole blood to 6 drops of a 0.5 per cent. solution of calcium chlorid and tilting the tubes in the same manner as for the coagulation time, and reading the end point in the same manner.

The prothrombin time was determined by placing 0.5 c.c. of a 1 per cent. solution of potassium oxalate in a centrifuge tube and adding about 4 c.c. of whole

TABLE 2.—COAGULATION TIME OF MOTHER'S BLOOD INTRAPARTUM

Case	Coagulation, Minutes	Calcium, Minutes	Prothrombin, Minutes
1	5	4.5	4.5
2	4.5	4	2.5
3	4.5	4	2
4	6	5	4
5	5.5	6.5	4.5
6	3.5	4	3.5
7	5	6.5	6
8	5	3	3
9	4	6	2.5
10	6.5	5	2.5
11	3	2.5	4
12	3	3.5	7
13	4	2	4
14	7	5.5	3.5
Average	4.75	4.43	3.82

blood. This was mixed thoroughly and centrifuged for ten minutes at moderate speed, and the clear plasma was used for the determinations. Seven tubes were rinsed with physiologic sodium chlorid solution and placed in a rack. To Tube 1 was added 2 drops of a 0.5 per cent. solution of calcium chlorid. To Tube 2 was added 3 drops and so on, until the seventh received 8 drops of the calcium chlorid solution. Five drops of the oxalated plasma was added to each tube, and the time and tube noted at which the coagulum first appeared. The end-point was determined by tilting the tubes every half minute, as in the case of the calcium and coagulation time estimation.

The blood was obtained from the mothers by puncture of the median basilic vein, and drawn into a Luer syringe which had been rinsed with physiologic sodium chlorid solution immediately before the blood was drawn. The fetal blood was obtained by puncture of the vein of the umbilical cord, in most cases just before or just after the cord was clamped, but in a few cases from a few minutes to half an hour after the delivery of the placenta. Some investigators have used blood from the cut end of the cord, but this is hardly comparable to blood obtained by venipuncture because of the presence of Wharton's jelly and thrombokinase set free from the cut surface of the cord. In all cases the readings were made immediately after the samples were obtained, and an attempt was made to provide uniform conditions as to temperature and moisture to avoid variations in results due to these factors.

RESULTS

From a study of the figures it would seem that the coagulation time of the blood is not prolonged beyond the normal in pregnant, parturient or puerperal women. Table 1 shows the results of tests made on pregnant women not in labor. It is seen that the average coagulation time was 5 minutes, calcium time 4.5 minutes, and prothrombin time 5.9 minutes. These figures are well below the upper limit of 8 minutes

2. Howell, W. H.: Harvey Lectures, 1916-1917.

set as the coagulation time of normal blood. Indeed, it would seem that a slight increase in the coagulability of the blood occurs in pregnancy.

Table 2 gives the results of the tests made while the woman was in active labor, and in most cases only a few hours or minutes before the birth of the baby. Theoretically, it might be assumed that the marked physical strain of labor, together with the more obscure, but nevertheless significant, changes in the physiologicochemical constituents of the blood at this time, might have a marked effect on the coagulation time. However, it will be seen from the figures that the

TABLE 3.—COAGULATION TIME OF MOTHER'S BLOOD POSTPARTUM

Case	Coagulation, Minutes	Calcium, Minutes	Prothrombin, Minutes
1	3	2	10
2	6	5.5	4.5
3	5	5.5	4.5
4	6.5	7.5	4
5	5.5	6.5	4
6	7	8	2
7	7	6	2.5
8	6	6.5	2
9	3.5	4	3.5
10	4	5	2
Average	5.3	5.65	3.5

average coagulation time was approximately the same as in the preceding series, 4.75 minutes. The calcium time was 4.43 and the prothrombin time 3.82 minutes. These figures are slightly less than those in Table 1; the difference is not striking enough, however, to warrant drawing conclusions.

Table 3 shows the results obtained from the coagulation time determinations on the blood of women during the puerperium and during lactation. The figures indicate that the coagulation time is about the same as for pregnant women and for women in labor. The average coagulation time was 5.3 minutes, calcium time 5.65, and prothrombin time 3.5 minutes.

Table 4 shows the results obtained from the coagulation time determinations on the blood of the new-born babies. The average coagulation time was 4.5 minutes, calcium time 3.75, and prothrombin time 3.5. In this series the blood was obtained from the umbilical cord by venipunture as soon as possible after the delivery of the baby. In two cases the blood was obtained fourteen and thirty minutes, respectively, after the placenta was expelled. The coagulation, calcium and prothrombin time was not materially altered in these cases.

None of the babies of this series proved later to be bleeders, so that a statement regarding the coagulation time in this class of cases at the time of birth cannot be made. However, the opinion is ventured, and is supported to some extent by the work of Rodda, that even in these cases the coagulation time is normal at birth.

The prothrombin time estimation in some of the cases was very difficult, owing to the fact that while a clot formed in these cases, it was not very firm, and it was difficult to determine just when it had reached its maximum density.

COMMENT

It would seem from a consideration of these figures that the blood coagulation time in women before, during or after delivery is well within the normal limits, and that blood taken during labor, just before the birth of the baby, coagulates a little more quickly.

These results accord very well with those of Myer Solis Cohen,[3] who made his coagulation observations on drops of blood in a Stender dish at constant temperature on a water bath. He found that menstruation and pregnancy caused no change in coagulation, and that the puerperium decreased the coagulability of the blood slightly. He found also that the intake of fluids decreased the coagulability of the blood, and that the coagulation time was prolonged after meals.

Weiss[4] found that the coagulation time in the new-born was less than the average for the adult, as measured by the Wright method, and, as was seen in these experiments, was frequently the same as that of the mother's blood. In some instances it was delayed, but in these cases the coagulation time of the mother's blood was also delayed. He also found that breast-fed babies had a longer coagulation time than those fed on cow's milk. He ascribed this to the fact that cow's milk contains more calcium and magnesium than mother's milk.

Rodda[5] found that the average coagulation time in new-born infants was seven minutes, and ranged from five to nine minutes. His method consists in placing a drop of blood between two watch crystals and rolling a lead shot through the drop till the shot is caught by the coagulum. He noted that the coagulation time was progressively prolonged till the fifth day, and that it returned to normal by the tenth day. This corresponds to the clinical observation that most of the spontaneous hemorrhages seen in the new-born occur from the second to the eighth day.

The addition of calcium to the blood seemed to increase the coagulability, but not sufficiently to be accounted a significant factor in the hemorrhages of the new-born. This agrees with the work of Emmel,[6] who found that the calcium content of pig embryos was in excess of that in adults in the proportion of 7:5. He noted also that the presence of bile in the blood of these embryos is the primary factor in the increased coagulation time. This, he found, could be

TABLE 4.—COAGULATION TIME OF BLOOD OF NEW-BORN

Case	Coagulation, Minutes	Calcium, Minutes	Prothrombin, Minutes
1	5.5	4	3
2	5	3.5	4
3	4	3	5
4	4	2	4
5	4	3.5	4
6	3.5	3.5	2
7	4.5	5	2
8	4.5	4	2.5
9	4	4	4
10	5.5	5	4.5
Average	4.5	3.75	3.5

overcome by the addition of tissue juice, which neutralized the action of the bile. He noted that the blood platelet count was about the same in the embryos as in the adult pigs. The clots obtained were loose and of the sliding type, as opposed to those in my series, which were as firm as the clots observed in the adult bloods. The babies in this series were all full-term.

It is seen from a comparison of the coagulation time of the maternal and fetal blood, as shown in Table 5, that at the time of birth there is very little difference. In most cases, if the coagulation is retarded in one, a

3. Cohen, M. S.: The Coagulation Time of the Blood as Affected by Various Conditions, Arch. Int. Med. **8**: 684 (Nov. 15) 1911.
4. Weiss, Hugo: Wien. klin. Wchnschr. **23**: 839, 1910.
5. Rodda, F. C.: Determining Coagulation Time of Blood in New-Born, Am. J. Dis. Child. **19**: 269 (April) 1920.
6. Emmel, V. E.: J. Exper. Med. **31**: 177 (Feb.) 1920.

similar change is noted in the other, though it may be less marked. These facts would argue that there is probably a free exchange, through the placenta, of the substances that enter into the reaction of coagulation. This, in turn, shows why the hemorrhages of the newborn rarely, if ever, occur on the first day of life, but are usually seen about the fourth day.

Postpartum hemorrhages have been observed clinically much more frequently in patients who have been under ether anesthesia than in patients who have not been anesthetized. This factor was observed in all cases, but no differences in the coagulation time could be detected in the two groups. It is probable, therefore, that these hemorrhages are due to relaxation of the uterine muscle bundles, thus releasing the constriction on the uterine vessels.

TABLE 5.—COMPARISON OF MATERNAL AND FETAL BLOOD

Blood	Case	Coagulation, Minutes	Calcium, Minutes	Prothrombin, Minutes
Maternal	1	3	2.5	4
Fetal	1	3	3	No good clot
Maternal	2	4	4	4
Fetal	2	4	2	4
Maternal	3	5	6.5	6
Fetal	3	3.5	3.5	2
Maternal	4	6.5	5.5	4.5
Fetal	4	5	5.5	4.5
Maternal	5	3.5	4	3.5
Fetal	5	6	7	4.5
Maternal	6	5	3	3
Fetal	6	5.5	4	3
Maternal	7	4.5	4	2.5
Fetal	7	4.5	4	2
Maternal	8	4.5	4	2
Fetal	8	4.5	4	2
Maternal	9	6	4	4
Fetal	9	4	4	4
Maternal	10	3	3.5	7
Fetal	10	4	3	5

CONCLUSIONS

1. The coagulability of the blood in women before, during and after labor, as measured by the estimation of the coagulation, calcium and prothrombin time, is well within the limits of normal blood coagulability.
2. Maternal and fetal blood at the time of birth of the baby have practically the same coagulation time.
3. There is no evidence from this series of experiments that pregnancy tends to produce a hemophilic state in the mothers; hence, postpartum hemorrhage can rarely, if ever, be ascribed to this cause.
4. Fetal blood at birth clots with normal firmness and rapidity, so that subsequent hemorrhagic tendencies cannot be detected from coagulation tests at this time.
5. Patients who took ether exhibited the same coagulation time as those delivered without ether. Postpartum hemorrhages, therefore, which are more common in these cases, cannot be explained on the basis of decreased blood coagulability.

Infant Mortality and Prevention in New Zealand.—The result of a study made by the U. S. Department of Labor (children's bureau) shows a close relation between organized infant welfare work and a striking reduction in the number of infant deaths in New Zealand. The New Zealand rate is lower than that of any other country in the world, it is stated. For 1919, the number of deaths of infants under 1 year of age was only 45 to every 1,000 live births, as compared with 87 in the United States birth registration area. The credit for this is due to the work of the Royal New Zealand Society for the Health of Women and Children, organized in 1907. Popular education in "mother-craft" is also promoted, through free distribution of pamphlets; publication in the newspapers of a regular column on "Our Babies," and the natural passing on of information among the women of the society.

BATTERY BURNS

REPORT OF THREE CASES

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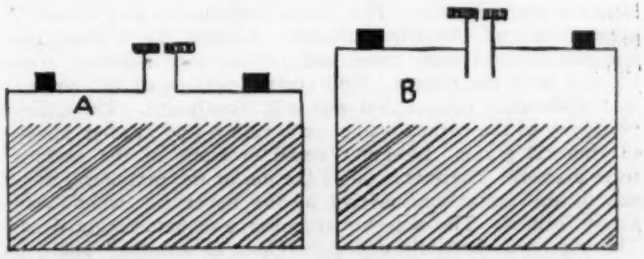
There have come under my observation, during the last two years, three cases of burns of the eye and adnexa by sulphuric acid from storage batteries. The burn in itself in each case has presented no clinical features unusual to any acid burn; but the interesting feature has been the manner of production. All of the cases have been in mechanics working on the storage batteries of automobiles, and a few brief facts concerning such batteries would not be amiss.

A storage battery consists of an acid-proof cell, containing alternate plates of lead and zinc and filled with dilute sulphuric acid. The cell has an acid-proof cover, through which three vents lead, two of them closed by the usual electrode connections, while the third is for ventilation and is usually closed by a rubber screw-cap with a pinhole aperture in it. Such a battery is continuously charging or discharging, and is never electrically quiet unless completely inert.

During the process of charging, heat is generated by the resistance of the fluids to the electrical current, and hydrogen is given off by an electrolytic change in the sulphuric acid. When the battery is at an electrically low ebb, the amount of heat and hydrogen given off is very minute; but as the point of electric saturation approaches, the heat increases in amount so that a fully charged battery has a temperature at its point of saturation as high as 140 C. (284 F.). At this point, the hydrogen is given off in such quantities that visible bubbles appear in the battery solution, and the battery is said to be "gassing." And this is the dangerous point. An open flame of any sort, whether it is an electric spark, a blow-torch, or a glowing cigaret, suffices



Batteries in cross-section, with small dead space (*A*) and large dead space (*B*, dangerous type).

to ignite the hydrogen that has been mixed with air, and the gases will burn with an almost instantaneous flame. Were this in the open and unconfined, there would be no danger. But the flame occurs within the small air chamber that lies within the battery cell between the upper level of the sulphuric acid and the cover of the cell. Confined within this small space, the rapidity and intensity of the gas flame is sufficient to be regarded as an explosion, exerting tremendous pressure equally in all directions. The sole vent is the aperture for ventilation (and the cap is usually off), and through this are driven the burned and burning gases and quantities of sulphuric acid that lie near the surface.

The force is sufficient to drive the mixture several feet into the air, and woe betide the flesh that lies

within the range of that hot sulphuric acid with its relatively high specific gravity of 1.350. The distance that the mixture is expelled from the cell depends on the amount of hydrogen present, which, in turn, depends on two factors. First, on account of the extreme lightness of hydrogen, the gas escapes from a charging cell fairly rapidly unless the vent hole is too small or even entirely plugged. Therefore the battery must be actually charging for hydrogen to be present in sufficient quantities to be dangerous. Second, if the cell cover is relatively low and the air vent is flush with the inner surface of the cover, the possible quantity of hydrogen is limited. But if the cell cover is high above the surface of the acid and if the air vent projects three-quarters inch through the cover (as is the case in one make of battery), a large dead space is present in which sufficient amounts of hydrogen may accumulate so that the force of the resultant explosion will blow the entire cell cover off, spattering the acid in all directions. The accompanying diagram shows cross-sections of batteries with small dead space and with large dead space (dangerous type). It is scarcely necessary to add that hydrogen alone and in a pure state is noninflammable, and that the admixture of air or oxygen is essential to the production of a flame. But the explosion of such a mixture is of the most violent type, exerting tremendous force.

REPORT OF CASES

Case 1.—H. S., July 9, 1920, was using a blow-torch to heat a battery connection for a repair job of soldering. The battery had just been "taken off the line," and was fully charged. An explosion occurred, and hot acid was splashed into both eyes. He washed both eyes with tap water immediately, and ten or fifteen minutes later flushed the eyes with a solution of sodium bicarbonate. Since then he had been keeping the conjunctival sacs filled with a neutral ointment.

July 16, the right eye was practically normal except for a slight conjunctival hyperemia. The left eye showed moderate edema of the lids. The tarsal conjunctiva was swollen and hyperemic, and showed several eroded areas, particularly near the outer canthus. The bulbar conjunctiva was intensely edematous and bloodily suffused. Around the limbus, the conjunctiva was very tense and yellow, and appeared continuous with the cornea. The central portion of the cornea was moderately opaque, but was still translucent. The entire periphery of the cornea was cloudy, yellow and swollen above the normal plane. Irregular small erosions of the surface were present. There was one adhesion of the peripheral cornea to the tarsal conjunctiva of the upper lid, which was easily broken. The anterior chamber was moderately deep. The pupil was partially under the effect of atropin. The iris seemed normal. The fundus could not be seen. The tension of the eyeball was slightly below normal. Vision equaled light perception.

The usual local treatment of atropin ointment, mercurochrome-220 soluble, sodium bicarbonate wash, and sterile petrolatum was ordered. The inflammatory reaction gradually subsided with extensive formation of adhesions between the tarsal and bulbar conjunctiva. These adhesions were broken daily, and attempts were made to prevent further formation by the inserting of various kinds of artificial tissues between the lids. The attempts were not successful, however. August 12, the conjunctiva had lost the charred, white appearance, and was now exuberant. The fornices were contracting with scar tissue. The corneal erosions had disappeared, and the peripheral swelling was subsiding. But the opacity of the cornea was increasing and becoming more dense, both centrally and peripherally.

October 29, the exuberant conjunctiva had quieted down and was replaced with smooth scar tissue. There was one firm symblepharon above and one below, both of which were fairly wide. The cornea was entirely opaque, with smooth, glistening epithelium. Under the slit lamp, the opacity was seen to consist of what seemed to be irregularly round coagulations of the corneal tissue, with dilated lymph spaces and thickened nerve fibers. There was considerable vascularization by fine deep vessels from the scleral limbus. The iris was no longer visible. An attempt was made to cut the adhesions and prevent their recurrence by the implantation of a Thiersch graft, but this was not successful. Therefore, Jan. 26, 1921, the symblepharons were carefully dissected free and egg membrane was sutured in place to prevent the recurrence of the adhesions. This was partially successful.

July 8, 1921, the eye was pale but flushed easily. The conjunctiva was smooth and showed extensive areas of scar tissue. The lower symblepharon was broader than the upper, but neither was sufficiently tight to interfere with ocular motion. The cornea was entirely opaque and was covered with new connective tissue, heavily vascularized from the neighboring limbus. The vision was good light perception and projection. It was not deemed necessary to operate further on the symblepharons.

Case 2.—L. A., seen in consultation, May 10, 1922, was working on an automobile battery, March 7, when the flame of a blow-torch ignited the free hydrogen, and an explosion occurred. The hot acid was spattered into the right eye. Since then he had had the usual local treatment.

The conjunctiva of the right eye was moderately injected. There was some cicatrical contraction of the scarred lower tarsal conjunctiva and much more of the upper. In the exact center of the upper tarsal conjunctiva was a 4 mm. round nubbin of granulation tissue. The bulbar conjunctiva was slightly drawn over the limbus at the periphery. The corneal epithelium was unbroken. There was a diffuse haze of the corneal tissue well under Bowman's membrane, but there were no defined collections of opaque tissue. It would seem rather that the entire corneal substance was semiopaque. The visible nerve fibers were thickened, and the lymph system was distorted. There was no vascularization visible, even with the slit lamp. The anterior chamber and the iris were normal. The pupil was under the influence of atropin. Fundus details were not visible. The tension of the eyeball was slightly minus. Vision was 0.04

The left eye showed a slight follicular conjunctivitis, but was otherwise normal except for a slight error of refraction.

Case 3.—P. W. was removing a fully charged battery from the charging bench, when a live wire short circuited on a terminal, causing a spark in the immediate proximity of the air vent of the battery. An explosion followed, and some hot acid spattered into the right eye. The eye was washed immediately with tap water.

When seen about twelve hours later, July 19, 1922, the left eye was normal. There was some edema of the lids of the right eye. There was moderate swelling of the tarsal conjunctiva, with roughening of the surface. There was considerable mucoid secretion. The bulbar conjunctiva was slightly injected along the palpebral aperture. The cornea, anterior chamber, iris, pupillary action, fundus and tension were normal.

A wash of sodium bicarbonate was ordered to be used every few hours, and an ointment containing an iodoform substitute was instilled after each application of the wash. Within a few days, the inflammatory reaction subsided and left the eyelids in a normal condition without any scar formation.

One of the clinical features of these cases that is difficult to explain is the production of the deeper corneal opacity with little or no disturbance of the corneal epithelium. It is barely possible that the cases came under examination so long after the original injury that any epithelial erosion had had sufficient time to heal completely. But in that case there would have been some visible traces left, none of which were found. It is an open question whether the opacity resulted from the heat of the solution that struck the eye or whether it was due to the chemical action that may occur in the short time that elapses before the

foreign solution is washed away by the tears and the action of the lids. The heat effect would seem the most probable because of the lack of epithelial erosions and because of the clinical picture of seeming albuminoid coagulation as seen with the slit lamp. Were it the chemical action, there would be either epithelial erosions that would be very slow in healing or else marked opacity and distortion of the surface epithelium, probably accompanied by sloughing, a condition that did not exist in any of the cases. A case illustrating this point came under my observation shortly after the Fourth of July of this year. A boy suffered a burn of the eyeball and eyelids from an explosion of a small can of calcium carbid, and it was impossible to tell from the history whether the injury resulted from the flame or from flying particles of the chemical. The cornea presented a condition identical with that seen in the sulphuric acid burns. Had the corneal condition been due to the chemical, small particles, the result of the chemical disintegration in the form of quickline, would have been found in the cornea or conjunctiva. But the epithelium was intact, and no foreign matter could be detected. With the slit lamp the same coagulation appearance was seen. Consequently it was not possible for the effect to be produced by any other agent than the flame and its heat. It is well known that the deeper corneal stroma is less resistant to trauma than is the epithelium, and in all probability in these cases the intensity of the fire trauma was not sufficient to injure the epithelium enough to leave permanent traces, but was sufficiently severe to produce the effect on the deeper tissue.

Various degrees of burns of the conjunctiva and lids with all forms of resultant deformities may occur, but that phase of the subject belongs distinctly to the realm of plastic surgery which lies apart from the scope of this paper. It does not seem that there is any immediate therapy that will lessen the severity of corneal involvement of such a burn, and the opacity that results has the tendency to increase in amount and impenetrability until the cornea has lost its major attribute of complete transparency.

METHOD OF PREVENTION

But the prevention of battery burns of the cornea is simple. A protective goggle should be worn by every mechanic who works with charging batteries. The goggle need not be so large that it interferes with work or so close fitting that it prevents the free evaporation of perspiration from the underlying skin, which would result in immediate cloudiness of the glass with diminution of vision. But it should be large enough so that a splash of acid coming from any of the usual working directions would be prevented from reaching the cornea. It is obviously impossible to prevent burning of the skin of the face by a goggle. Further, in every shop in which the possibility of such an explosion exists there should be a large bottle of a sterile saturated solution of sodium bicarbonate and an eye cup. On the occurrence of such an accident, the eye should be flushed thoroughly and repeatedly with eye cups full of the solution in the endeavor to neutralize any free acid that may be present. After that the eye should be filled with sterile borated petrolatum and the victim of the accident sent to the nearest physician. Fortunately, such accidents are not common, but with proper protection they should be eliminated entirely from the repertory of industrial mishaps.

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MERCUROSAL IN THE TREATMENT OF SYPHILIS*

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None of the mercurial preparations used, at present, in the treatment of syphilis are perfect. In the laudable quest for better ones Parke, Davis and Company submit a new mercurial preparation for which several claims have been made. The evidence from the literature that they submit in its favor is of little or no value, since, in practically all cases reported, the patients received arsphenamin as well as Mercurosal. In the first place, they claim that they have a preparation which can be used either by the intramuscular or by the intravenous route. This, of itself, would be advantageous in certain cases in which it would be found impossible to use one of these routes. Secondly, they affirm that the drug has no deleterious effects on the vessel walls. To quote their own words, "Following a long series of intravenous injections in dogs, there was no appreciable effect on the veins at the site of injections." Thirdly, in support of this drug, Parke, Davis and Company say, in advertising in the *Medical Times* and in the Department of Progressive Advertisers, "There is abundant evidence that Mercurosal possesses high spirocheticidal value, and that its administration either intramuscularly or intravenously is not followed by untoward symptoms." Because of these broad claims, it was determined to inquire into them and to find out whether the company had actually evolved a superior mercurial preparation: something that would really add to our armamentarium for the treatment of syphilis. To conduct such a study as this, it is almost necessary to have the patients in the hospital, where they can be observed, not only daily but several times a day; where the urine can be examined daily; where mercurial symptoms can be looked for, once or twice a day, and where one is sure that all directions have been carried out to the letter. Moreover, it is only under such conditions that one can really study the effects on the patients and on the disease. These ideal conditions we have had in the syphilis ward at the Cleveland City Hospital, where it has been possible for us to make all kinds of examinations, including Wassermann tests, dark-field examinations and lumbar punctures, as often as necessary. For our purposes, we have used the drug on thirty-eight different patients, whom we had the opportunity of studying thoroughly. In quite a number of other cases, a few injections were given, but no conclusions could be drawn, inasmuch as the patient would either leave the hospital or refuse treatment, etc. The drug was administered to fifteen patients by the intramuscular route, and to twenty-three patients by the intravenous route, one of these patients receiving part of the drug intravenously and part, intramuscularly.

DOSAGE

The drug was given, as nearly as possible, according to the recommendations of the manufacturers, intra-

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muscularly, in doses of 5 centigrams, and, intravenously, in doses varying from 5 centigrams to 2 decigrams. The drug was generally given every other day by both routes. The manufacturers advise giving it, not oftener than from every three to five days, by the intramuscular route; but we found no difficulty in administering it every second day, into the buttocks.

SYMPTOMS FOLLOWING INJECTIONS

When the drug was given intramuscularly, the patients quite often complained of pain. In Case 10, that of a woman, there was such severe immediate local pain that, to use her own words, she "almost collapsed for a minute or so," and once it was necessary to give her morphin. However, in most of the patients, the symptoms were not any more severe than after the routine use of biniodid, administered by the intramuscular route, the symptoms usually disappearing in a few hours.

USE OF THE DRUG INTRAVENOUSLY

When the drug was administered intravenously, following the directions of the manufacturers, it was injected very slowly. After it had been dissolved in 5 c.c. of sterile, distilled water, it was administered at the rate of 1 c.c. a minute. It was given only in freshly prepared solution. As a rule, the patient did not complain of the local pain caused by the injection. In one instance, a small amount of the drug was injected outside the vein and caused a certain amount of local erythema and edema, with a moderate amount of pain, which lasted for twenty-four hours and then passed away.

EFFECT ON THE VEIN

In four of the twenty-three patients in whom the drug was administered intravenously, a sclerosis of the vein, due to the injection, was noted. In Case 17, a sclerosis gradually developed during a course of ten injections. In Case 24, the sclerosis was so marked after six injections that it was necessary to change the method of administration to that by the intramuscular route as the patient had only one good vein. In Case 34, the vein was gradually sclerosed so that we could give only nine injections; and in Case 23, it was found possible to give the patient the twelve injections intravenously, by which time the vein was so sclerosed that it would have been impossible to give him any more by this route. In this patient, a section of vein was removed under local anesthesia for examination, and the following pathologic report was kindly given us by Dr. Guthrie McConnell, pathologist of the Cleveland City Hospital:

> Mr. M. C. L.: The specimen is a piece of vein from the arm. The section of vein shows the lumen filled mainly with masses of fibrin which show penetration here and there of endothelial cells; the walls of the vein are thickened. In one area, there is a very extensive hemorrhage involving the muscular coat and adventitia. There is a round-cell infiltration in some areas, with an occasional leukocyte.
>
> Pathologic diagnosis: Noninfectious thrombosis.

In none of these four patients, to our knowledge, was any of the drug given outside the vein.

SYSTEMIC EFFECTS OF THE DRUG

The mercurial effect from the drug in certain of the patients seemed to be quite easily achieved. In several cases, we noted a beginning salivation after two or three injections; for example, in Case 20, it occurred after two intravenous doses of 0.05 and 0.1 each. In several instances, patients complained of griping pains in the abdomen. However, in practically none of the patients did we find that the salivation became so marked that it was necessary to stop the Mercurosal for a time, as we often do with other mercurials. We also note in the literature supplied by Parke, Davis and Company that one or two of the writers mention absence of marked salivation from the drug. Diarrhea was not noted. In one patient, Case 30, to whom the drug was administered by the intravenous route, there was a generalized diffuse erythema following the first injection, with no accompanying sore throat or elevation of temperature. The process appeared six hours after the injection, and was gone the next morning. Following the next injection, two days later, a similar reaction occurred, although this was in a patient with a primary lesion, and, therefore, could not be considered a Herxheimer reaction. With all succeeding injections, no systemic reaction was noted. We ascribed the erythematous eruption to the drug itself, as an erythema has already been described as following the use of mercury. In several instances in which the patients were taking the drug by the intravenous route, they complained of weakness for the first twenty-four hours after the injections. This was especially true when doses of 0.2 decigram were employed. Otherwise, there were no especial symptoms following the medication as far as the patient was concerned.

EFFECT ON THE KIDNEYS

Urine examinations of all patients were made regularly, and, in only one patient, was more than a very faint trace of albumin noted. In this case, that of a woman, a very heavy trace of albumin developed after two or three injections. However, careful examination by a urologist demonstrated that there was pus in the kidney, which explained the whole condition.

EFFECT OF THE DRUG ON SYPHILIS

The effect of the drug on syphilis is illustrated in the following cases. Of the twenty-three patients treated by the intravenous route, twelve were improved; eight showed no improvement, and three became worse under the therapy. Ten of the patients treated by the intramuscular route were improved; in two cases, there was no improvement, and three became worse. In all these cases, plenty of opportunity was given for the drug to show its true therapeutic value. Practically all of the patients received at least from ten to twelve injections, unless we found that they were becoming so much worse that it was necessary to change the therapy. With the twenty-three patients under intravenous therapy, a total of 226 injections, or nine for each patient, was given; and by the intramuscular route, in fifteen patients, a total of 160 injections, or ten for each patient, was given. In some instances, for example, if patients became worse, and there was a flaring up of the lesions under therapy, it was necessary to stop at once and change the treatment. For example, one patient (Case 11) developed more patches on the tonsil after five injections of Mercurosal, intramuscularly. These gradually spread over the tonsils and onto the inside of the cheeks, so that, after eleven injections, it was stopped, and the patient was put on mercury rubs, receiving sixteen of them with some benefit, and then seven injections with red mercuric iodid, which cleared up the process entirely. In another patient (Case 14), with a primary lesion, a secondary eruption developed after fourteen

injections of Mercurosal. Again, in Case 20, a patch developed in the throat after twelve injections of Mercurosal intravenously. In Case 5, the patient, a man with malignant syphilis, was quite a little worse after taking ten injections. He was then put on mercury rubs. Another patient (Case 1) developed patches in the throat after seven injections of Mercurosal. The treatment was then changed.

COMPARISON WITH OTHER MERCURIALS

Perhaps one way of getting at the true value of this drug would be to compare it with other mercurial preparations. This we attempted to do in as unbiased a manner as possible. We have already cited Case 11, in which the patient had extensive syphilitic lesions in the mouth after eleven injections of Mercurosal, intramuscularly. The drug was then stopped, and the patient was given sixteen rubs and seven intramuscular injections of red mercuric iodid, ⅓ grain (0.021 gm.), each, which cleared up the process entirely. In Case 2, a patient with extensive condylomas, there was no improvement after twelve injections of Mercurosal intravenously, although he improved some after fourteen mercury rubs given later. He was then given eleven injections of red mercuric iodid, ¼ grain (0.016 gm.), intramuscularly, each, which caused a rapid recession of the lesion. In Cases 1 and 8, with secondary eruptions, patches developed in the throat after seven injections of Mercurosal. These patients were then put on mercury rubs, and the patches cleared up. Likewise, in Case 20, a patient with secondary syphilis, there was a recurrence of syphilitic patches in the throat after twelve injections of the Mercurosal, intravenously. This patient was then put on mercury and arsphenamin combined, which do not give us a clear-cut comparison, but which, of course, cleared up the process rapidly. We believe that, in all these instances, the superiority of mercurial ointment, U. S. P., and of red mercuric iodid was shown.

There is still another method for comparing the value of these drugs:

EFFECT ON THE DARK-FIELD EXAMINATION

The manufacturers speak of its high spirocheticidal value, so we endeavored, in the case of patients with primary lesions or with condylomas, to follow up, with dark-field examinations daily, the effect of this drug on the disappearance or continued appearance of the organisms. For example, in the cases in which the drug was used by the intravenous route the following results were observed. In one patient (Case 2) with condylomas, the dark-field examination was still positive after twelve injections of Mercurosal. In Case 8, a patient with a primary lesion, the spirochetes were still present after ten injections of Mercurosal. In Case 7, the dark-field examination of the primary lesion was positive after seven injections of Mercurosal. In Case 34, with a primary lesion, the dark-field examination was positive after eleven intravenous injections of Mercurosal, even with a dose increased to 0.15 gm. In Case 30, with a primary lesion, the dark-field examination was positive after ten injections of Mercurosal. In Case 32, with moist papules of the genitalia and rectum, the dark-field examination was positive after six injections of Mercurosal, and treatment was then changed because the patient was worse. With Mercurosal used intramuscularly in Case 11, after five injections, a patch developed on the tonsil in which spirochetes could be found and persisted until eleven of the injections had been given, when the treatment was changed to mercury rubs and red mercuric iodid, with good effect. In Case 31, with secondary syphilis and extensive condylomas, the dark-field examination was positive after fourteen injections. In Case 33, with a chancre, the dark-field examination was still positive after eight injections; and, as there had been no change in the lesion, the treatment was changed to arsphenamin and red mercuric iodid, the organisms disappearing after two intramuscular injections of biniodid and one of neo-arsphenamin, 0.75 gm., intravenously. From these data, we believe that Mercurosal can scarcely be classed as a very potent spirocheticide, probably not so good as mercurial ointment or red mercuric iodid, administered by the intramuscular route, and certainly not to be compared with the arsphenamins.

EFFECT ON THE WASSERMANN REACTION

In some of our early cases, the Wassermann reaction was negative at the time of admission because of the fact that the primary lesion was only a few days old. For example, in Case 34 and in Cases 30 and 15, the Wassermann reaction remained negative throughout the time that we followed them, a period of about three months. In all our patients, whether they improved or not, we changed to arsenical therapy and other forms of mercury before discharging them to the outpatient department in order to avert the criticism that we had failed to give them thorough treatment. In several instances, the patient had negative Wassermann reactions on admission, which became positive under therapy. For example, in one patient (Case 14) with a primary lesion, there was a negative Wassermann reaction, July 31; a plus-minus reaction, August 14, a three plus reaction, August 24, and a four plus reaction, August 28, although in all this time the patient had received twelve injections of Mercurosal, intramuscularly. In Case 36, the Wassermann reaction changed from negative to positive after four injections of Mercurosal, intravenously. This patient had a primary lesion, although it would hardly be fair to blame the drug in this instance, as four injections would scarcely have had much influence on the Wassermann reaction. In all other instances in which the Wassermann reaction was positive, it remained so throughout the therapy and did not change as a result of treatment with Mercurosal alone.

CONCLUSIONS

We believe, from our careful study of these thirty-eight patients who were followed from day to day in the hospital wards and not merely in the outpatient department of a clinic or in an office, that we can draw certain deductions in regard to the value of Mercurosal as an antisyphilitic remedy. Among the therapeutic effects produced, we noted in four instances a beginning stomatitis after two or three injections, indicating certain mercurial effects from its action. Moreover, according to our records, quite a large number of our patients were much improved from its use. However, careful examination of our figures would not lead us to believe that this preparation is superior to any one of several other old, well-tried mercurials. In seven instances (approximately 20 per cent.), the patients became worse following treatment with the drug; and ten of the patients, almost 25 per cent., showed no improvement. Certainly, comparison of this drug with red mercuric iodid by the injection route,

and with mercurial ointment in several instances demonstrated that the latter two remedies had at least an equal, if not a superior, antisyphilitic therapeutic action. Moreover, the drug had far from the high spirocheticidal value which the printed data of its manufacturers led us to expect. In those patients whom we followed with a daily dark-field examination, the spirocheticidal value of the drug was certainly not so high as that expected when using red mercuric iodid or mercurial ointment. The effects on the Wassermann reaction over a short period of time was practically nil. The drug when given intramuscularly seemed to be moderately well tolerated, but not any better than red mercuric iodid. Intravenously, however, in four of twenty-three patients, a sclerosis of the vein developed, this despite claims of the manufacturers that there was no deleterious action of the drug on the vein walls.

In the twenty-three patients treated by the intravenous route, a total of 226 injections, or an average of nine for each patient was given. The total amount of drug given was 26.7 gm., or an average of 1.16 gm. of Mercurosal for each patient. According to the reports of its manufacturers, the drug contains 43.8 per cent. of metallic mercury. Therefore, each one of our patients received an average of 0.508 gm. of metallic mercury by this route while under the treatment.

The fifteen patients treated intramuscularly received a total of 160 injections, an average of not quite eleven injections for each patient. The total amount of drug given was 8.75 gm., or an average of 0.58 gm. of Mercurosal for each patient or 0.254 gm. of metallic mercury.

We find from a table in Sollmann's textbook on pharmacology [1] that, by using a 1 per cent. solution of corrosive mercuric chlorid and giving a daily dose of 1 c.c. for six weeks, the patient would receive, in the six weeks, a total of 0.31 gm. of metallic mercury; or, if mercury cyanid, another soluble preparation, was employed, the patient would receive, using the same dose, 0.33 gm. of metallic mercury. How is this discrepancy to be explained? The patients treated by the intramuscular route with Mercurosal, in eleven injections, received almost as much metallic mercury as a patient under a six weeks' course of mercuric chlorid receives, 0.254 gm. as against 0.31 gm. The patient, on the other hand, if treated intravenously, received 0.508 gm., as against 0.31 gm. Why is it that the disease is not more benefited by Mercurosal? For the benefit of the manufacturers, we can only add here the suggestion of Professor Sollmann that perhaps the drug is excreted too rapidly to become fixed in the tissues and to exercise its beneficial action.

1. Sollmann, Torald: Manual of Pharmacology, Philadelphia, W. B. Saunders Company, 1922, p. 932. We are under deep obligations to Prof. Torald Sollmann for many suggestions in the carrying on of this investigation.

Cremation in England.—According to the report of the Council of the Cremation Society of England for 1921, cremations in Great Britain totaled 1,922, as compared with 1,796 in the preceding year. A new crematory was completed during the year, and plans for other crematories have been held up pending reduction in the cost of building. Eleven English towns are at present provided with crematories. Crematories in other countries are listed as follows: France, 6; Germany, 55; Holland, 2; Italy, 28; Denmark, 1; Norway, 3; Sweden, 2; Czechoslovakia, 1; Switzerland, 15; United States, 84, and Argentina, 1. The report closes with Maeterlinck's famous definition of cremation as "an immortal birth cradled in flames."

ENTEROPARESIS *

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According to the nomenclature of the Bellevue and Allied Hospitals,[1] the term "intestinal neurosis" includes "enteroparesis" and "enterospasm," while "intestinal obstruction" is applied only to mechanical obstruction. Thus, adynamic or paralytic ileus and dynamic or spasmodic obstruction are included under neuroses of the intestine. Ileus, derived from the Greek εἰλεῖν, to twist,[2] was originally applied to the ileum because the ileac loop was most often obstructed. The term ileus is defined as severe colic or acute abdominal pain associated with intestinal obstruction, although by some of us the absence of pain is held to characterize the paralytic type of ileus. It is suggested that the grouping of all mechanical obstructions under "intestinal obstruction," the functional nervous types of disturbed bowel motility under "neuroses," and the obstructions of vascular origin under "thrombosis, etc., of the mesenteric vessels" simply and accurately classifies the more common forms of clinical intestinal obstruction.

Enteroparesis resembles acute dilatation of the stomach and the condition of shock from the standpoint of external cause and symptoms, and it may be

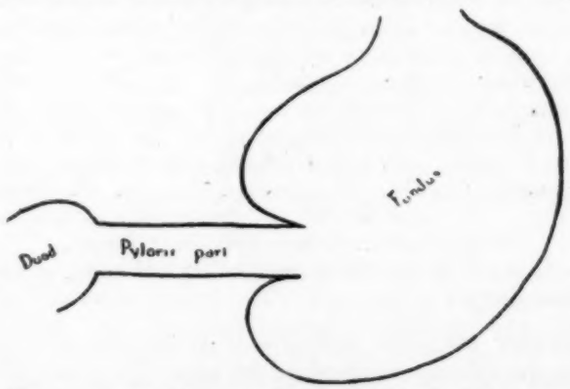

Fig. 1. — Schematic representation of diffuse pyloric spasm and fundal relaxation resembling a pylorofundal intussusception (from a case reported in Proc. Soc. Exper. Biol. & Med. **82**: 1542 [April 21] 1920). The symptoms were anorexia, vomiting, epigastric pain; mass, and tenderness. The condition, believed to be essentially of central vagus origin, disappeared immediately following irritation of the parietal peritoneum at the edges of the abdominal wound. This condition of diffuse pylorospasm and reversed peristalsis can be produced experimentally by clamping the pyloric sphincter, an observation which suggests the pylorus as the source of such impulses clinically, as in pyloric ulcer, cholecystitis and appendicitis.

that these three conditions are not greatly unlike, physiologically or pathologically. Traumas may give rise to dilatations of the stomach and bowel and to shock, especially such traumas as occur during operations on the abdomen. Either acute dilatation of the stomach or enteroparesis may occur alone; [3] or these two conditions may appear together; or gastric dilatation and paralytic ileus may comprise a part of the

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* Read before the Section on Gastro-Enterology and Proctology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. The Bellevue Hospital Nomenclature of Diseases and Conditions, 1911.
2. Dorland, W. A. N.: The American Illustrated Medical Dictionary, Philadelphia, W. B. Saunders Company.
3. Reinhard (Deutsch. Ztschr. f. Chir., February, 1922) disagrees with the author on this point and holds that "acute dilatation of the stomach is always combined with atony or paralysis of the upper bowel."

syndrome recognized as shock. That shock may occur without either paresis of the stomach or of the bowel seems evident to any one who has seen and operated on a patient with acute perforated ulcer of the stomach.

The temperature in this condition of enteroparesis may be normal, above normal or below normal. The pulse and respiration may be rapid, depending on the severity of the condition. The periphery is cold and pale. The pupils may be dilated, the facial expression

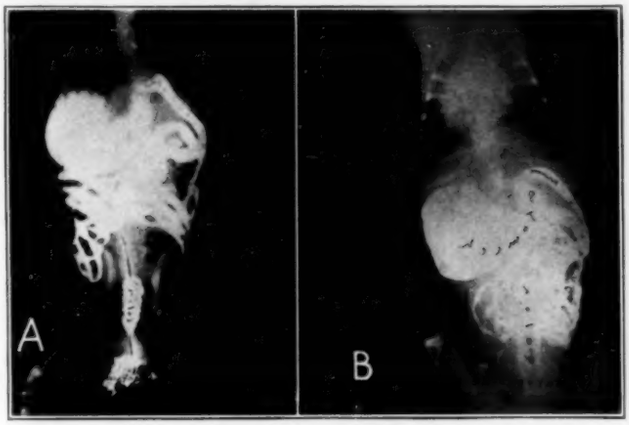

Fig. 2.—*A*, control before stimulation of cervical vagus; *B*, control after stimulation experiments were concluded.

distressed, and gulping or emesis may be frequent. Pain may be a distinguishing symptom in intestinal paresis, due to stomach cramp; but this symptom disappears when the stomach dilates. The vomiting of paralytic ileus may be projectile and provocable by the taking of even small amounts of water by mouth. In paralysis of the stomach and bowel, the dilated stomach fills out the upper abdomen, gastric peristalsis does not occur, and from time to time there is an overflow of stomach contents from out of the mouth. From these acute dilatations of the stomach and bowel, enterospasm differs in that there is very likely to be acute pain localized in the region of the spasm. Enterospasm, like gastrospasm, may be due to local disease or may be a pathologic reflex from some other organ. All these functional conditions are definite diseased conditions that, unabated, go on to kill the patient and, therefore, demand prompt investigation into the cause of the obstruction followed by the institution of rational treatment, if the patient is to be saved.

Enteroparesis may follow mechanical obstruction of the bowel, or interference with the circulation of the intestine,[4] or it may be associated with infection and toxemia. There undoubtedly are many possible reflex causes of bowel paralysis. Murphy[5] included in his classification strangulation of the omentum, hepatic and renal calculi, ovarian compression, and pleuritic and diaphragmatic irritation. Case 1 of the present group presents, among other possible etiologic factors, an omental anchorage band across a loop of large bowel; Case 3 is instructive from a reflex point of view in that following acute perforation of the urinary bladder and mechanical obstruction of the ileum there is acute suppression of urine. Braun and Legueu[6] have reported instances of acute paralysis of the stomach following ureteral catheterization.

Our own experiments have indicated a relationship between gastric tone and renal trauma. It may be that under certain conditions, stimuli from the kidney arrest the bowel function and stimuli from the bowel check kidney function. We have been studying the motility of the stomach in our gallbladder cases,[7] and are in hope that a typical gallbladder stomach may eventually be described that will supplement our present means of diagnosing gallbladder disease.

Cannon[8] has shown splanchnic inhibition following the crushing of the testicles, and Pottenger[9] has brought out the frequency of viscerovisceral reflexes between the lung and stomach. Other possible reflex causes of paralytic ileus are particularly parietal and visceral peritoneal traumas, such as occur during operations. Contractions have been repeatedly observed in the open abdomen under experimental and clinical conditions until the irritation from handling or from instrumentation reflexly inhibits these movements. It is found that simply rubbing the index finger over the peritoneum at the margin of the abdominal wound often promptly checks peristalsis. Our anesthetist, Dr. Foschee, at Bellevue, has observed that frequently changing the position of the retractors depresses the patient under anesthetic (Fig. 1). Bayliss and Starling[10] thus express their findings on this point:

> The splanchnics bear tonic inhibitory impulses to the intestine. These are accentuated by reflex inhibition of local origin. . . . The most striking method of producing reflex inhibition is stimulation of the intestine itself. If one or both splanchnics be intact, the slightest stimulus applied to the intestine, even a gentle handling of the intestine, suffices to produce a reflex inhibition of the whole length of the intestine.

Mall[11] holds that the inhibitory influence of the splanchnics is superfluous, for the intestine acts without connections of the spinal nerves. There can be no doubt, in view of the investigations on the subject, that the alimentary tube possesses an autonomy, but that in a normal intact animal the stomach and intes-

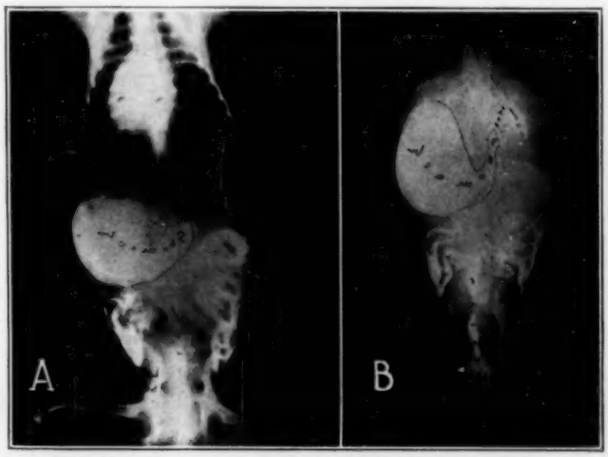

Fig. 3.—Stomach and intestine during stimulation of *A*, right and *B*, left vagus, respectively.

4. Barker (Contributions to Medical and Surgical Research, July 12, 1919, p. 319) cites the ileus syndrome after mesenteric arterial sclerosis, and Carlyle (personal communication to the author) holds that enteroparesis is the rule after arteriosclerosis of the mesenteric vessels.
5. Murphy, J. B.: Clinics, August, 1914, p. 621.
6. Braun and Legueu, cited by von Nieden: Arch. f. klin. Chir., Nov. 17, 1921.
7. Stewart, G. D., and Barber, W. H.: The Gastric Hypermotility Associated with Diseases of the Gallbladder, Duodenum and Appendix, J. A. M. A. **73**: 1817-1820 (Dec. 13) 1919.
8. Cannon, W. B.: Am. J. Physiol. **30**: 118-127, 1912; **6**: 252, 1902.
9. Pottenger: Symptoms of Visceral Disease, St. Louis, C. V. Mosby Company, 1919.
10. Bayliss and Starling: Am. J. Physiol. **24**: 99, 1909.
11. Mall: Johns Hopkins' Hosp. Rep. **1**: 37, 1896.

tine remain responsive to influences from either a vagal visceromotor or a splanchnic viscero-inhibitory system of nerves.

In the depressed states manifested as bowel or stomach paralysis or in shock, there presumably is injury of nervous tissue. The vagus nerves may be conceived as being affected in these states directly by impulses which depress, or indirectly by inhibiting impulses conveyed through the sympathetic fibers.

Fig. 4.—Stomach and intestine during stimulation of both vagi.

The pneumogastrics are essentially involved in respiration, circulation and alimentation, and these three functions particularly suffer. The rapid superficial breathing, the rapid weak pulse, and the dilated alimentary tract may very well follow interference with normal vagus control (Figs. 2, 3 and 4). The influence of severe head and bodily injuries and diseases on the medullary centers may theoretically work in this way. Experiments have been carried out on the vagi in the cervical regions with very little trauma and without interfering with the abdomen at all. This is impossible as far as the thoracicolumbar fibers are concerned. After section of the left vagus or the right vagus or of both tenth nerves at the same time in the same animal, the bismuth meal is seen to pass along the alimentary tube at the same rate of time as was observed in the same animals before section. The myenteric and segmentation reflexes remain intact as in the normal individual (Fig. 5). In the paretic state the intestine dilates, and the intrinsic reflexes are lost.

The observations made in the anesthetized animal through the open abdomen during stimulation of the vagus have been hypertonicity of stomach and intestine characterized by spasm and forcible peristalsis. Figures 2, 3 and 4 represent the conscious animal exposed to the roentgen rays while being stimulated by the galvanic current through the cervical vagus. Pylorospasm and duodenospasm appear under these conditions and at the time the pictures were taken without any appreciable changes in the tension of the stomach as a whole or in the mass of intestine.

It has been suggested that the handling of the organs impairs the neuromusculature and the plexuses of Meissner and Auerbach, which would apply to the traumas of abdominal operations but to only a part of the total cases of stomach and bowel paralysis. Jackson [12] suggests that action on the extrinsic nerves either through vagus depression or through splanchnic stimulation may initiate paralytic ileus by (1) dilating the viscera, (2) obliterating the capillaries, and (3) impairing the elasticity of the smooth muscle. From this point on, the intestine fails to contract even after the restoration of normal extrinsic nerve balance, until the status of the neuromusculature again becomes normal. In instances of marked dilatation unrelieved for from forty-eight to seventy-two hours, spots of gangrene may develop along the antimesenteric border of the obstructed loops. These areas of necrosis have been well described by Van Buren.[13] Personal experiments [14] agree with those of Cannon [15] and of Parham,[16] and the experience of Novak [17] in showing the paralyzing influence of stretching on smooth muscle.

The loss of extrinsic nerve control in these dilated bowel conditions is further borne out in the experience of those working in splanchnic nerve anesthesia. Perrier,[18] using the technic of Kappis, reports failure by himself and others in the ileus cases which he attributes to the "weight of the heavy loops of bowel."

The sharp bends and twists in the dilated loops of bowel and the finding of adhesions about damaged intestine have led to the selection of these characteristics as mechanical causes of obstruction in "ileus" cases. I am inclined to ascribe these findings to overcrowding, and the adhesions to attempts at repair. The kinking at the pylorus in dilated stomach has perhaps attracted most attention, and has been described to be the cause of gastrectasia. Similarly, those interested in intestinal "stasis" have been prone to blame the flexures of the colon for the delay in the bowel contents in these cases, although impaction of feces immediately orad of these sites of bowel suspension must be very rare.[19] (See observation on splenic flexure of Case 1.) All these possible causal factors occur in peritoneal tuberculosis, in which obstruction is not only very uncommon, but diarrhea is the rule. It is probable that these angulations, twists and bands act as contributory etiologic agents along with senility and constitutional disease in the production of enteroparesis.

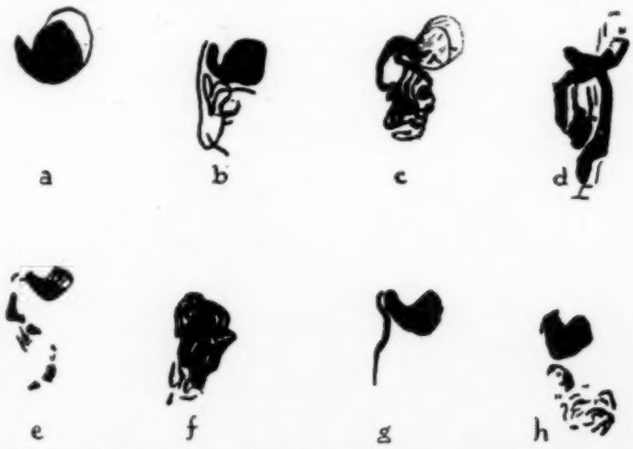

Fig. 5.—Tracings of roentgenograms of dogs before and after vagus section: *a*, stomach five minutes after meal in animal with right vagus in neck severed; *e*, same animal four hours later; *b*, stomach and intestine fifteen minutes after meal in animal after section of left vagus in neck; *d*, same, four hours later; *c*, control of *d*; *f*, control of *e*; *g* and *h*, after division of both vagi, ten minutes and four hours, respectively, after meal.

If we accept as a working hypothesis extrinsic nerve irritation, either vagus depression or sympathetic stimulation, in a susceptible individual, combined

12. Jackson, H. C.: Personal communication to the author.

13. Van Buren, F. C.: Ann. Surg. **72**: 610-615, 1920.
14. Barber, W. H.: Ann. Surg. **69**: 271-277 (March) 1919.
15. Cannon, W. B.: Am. J. Physiol. **29**: 264-265, 1911.
16. Parham, F.: Texas State J. Med., November, 1915.
17. Novak, Emil: Acute Postoperative Dilatation of the Stomach, J. A. M. A. **77**: 81 (July 9) 1921.
18. Perrier, C.: Rev. méd. de la Suisse Rom. **41**: 355 (June) 1921.
19. Professor Senior of the department of anatomy has not found in his experience that there is any diminution in the lumen of the flexures, as compared with that of the remaining colon.

with local neuromuscular depression to explain the mechanism of enteroparesis, it follows that the treatment in such cases must be directed toward the support of the general health and nervous equilibrium of the patient and toward the relief of the overdistended bowel. Physostigmin (eserin), atropin and pituitary extract may be tried. Lavage and enemas should be administered and, if these are ineffectual, ileostomy should be performed.

PROTOCOLS

CASE 1.—C. A., a woman, aged 55, Italian, who entered the third surgical division, Bellevue Hospital, Nov. 25, 1921, had fallen down a flight of stairs and had broken her arm the preceding day. On admission, she complained of epigastric pain, vomiting, and inability to move the bowels. The pain was associated with visible peristalsis, and remained localized in the epigastrium. The vomiting was projectile, and was provoked by the swallowing of small amounts of fluid. The distention of the abdomen was moderate in degree, and at no time during the patient's stay in the hospital did it become a threatening factor. The temperature remained normal or one degree above, the pulse averaged 100, and the respirations from 20 to 30. The periphery was pale but fairly warm, excepting during the last day, when the patient became blanched and cold. She showed in her expression evidence of extreme intra-abdominal pain; and it was this outstanding feature that compelled operation. The patient was operated on, November 29. The findings were: stomach, normal; bowel from the pyloric sphincter to the middle of the ascending colon, dilated; remaining colon, collapsed; an old adhesion, made up in part of parietocolic membrane and in part of great omentum across the middle of the ascending colon distal to the dilated bowel, and a sharply angulated splenic flexure through which gas could be made to pass with great difficulty. The contents of the dilated bowel were gaseous. The significant findings were the normal stomach associated with dilated bowel, which began abruptly at the pyloric sphincter and ended mysteriously in the ascending colon. The adhesion was divided, the cecum was fixed to the abdominal wall so that cecostomy could later be performed if desired, and the abdomen was closed. Water was given by hypodermoclysis and by rectal infusion. Gastric lavage was carried out repeatedly. Morphin was administered and external heat kept up. November 30, after a temporary improvement, death followed sudden cardiac collapse. Postmortem examination revealed a fatty heart weighing 360 gm., with slight endocarditis and coronary sclerosis, atheroma of the aorta, small arteriosclerotic kidneys weighing 220 gm., a small congested spleen, a small multilobular liver, and a gastro-intestinal condition as noted at operation. The splenic flexure was opened and a large baggy opening was found, the exact opposite condition one would infer from the sharp pointed flexure seen in the open abdomen. The dilatation of the small and first part of the large intestine remained as described at operation, notwithstanding the division of the omental band.

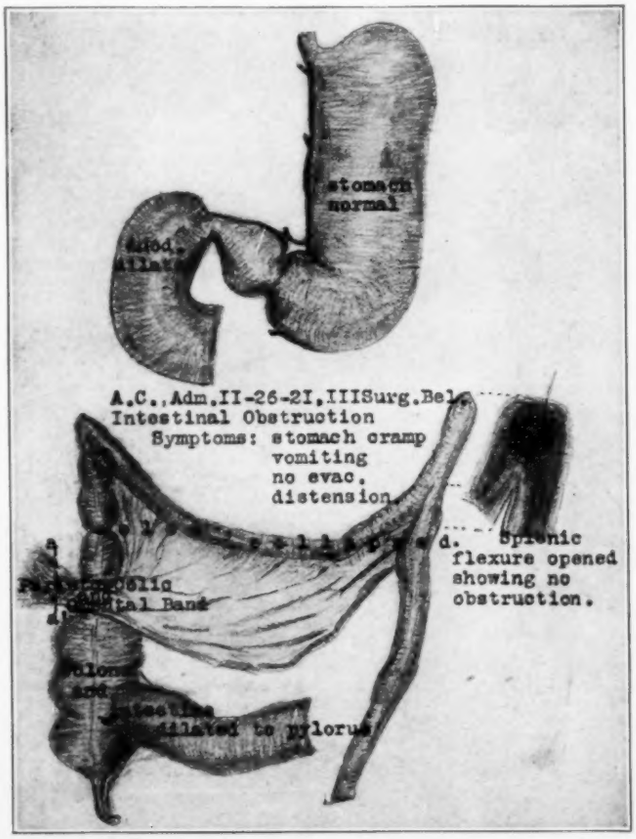

Fig. 6 (Case 1).—Release of band *a-a'* allowed escape of gas to splenic flexure, and in less amount into descending colon. Cecopexy was performed; cecostomy was not necessary. Necropsy confirmed the foregoing and revealed arteriosclerosis and fatty heart.

To be noted in this case are: (1) peripheral trauma; (2) constitutional impairment of essential organs, and (3) bowel paralysis; (4) the outstanding symptom, pain, and (5) the large baggy splenic flexure, which appeared sharp and obstructive. The trauma and organic disease are believed to have brought on the paralytic ileus and toxemia that brought on the patient's death.

CASE 2.—J. P., a woman, aged 30, Italian, developed an acutely distended abdomen five days after an enterocolostomy. While the patient lay comatose in her bed, the wound was reopened and a catheter sutured into the first dilated loop of small bowel that appeared. Relief through discharge of gas and fluid was followed by recovery.

Ileostomy restored the patient by relieving the dilated bowel, while the intestinal tone remained intact. This experience is probably typical of a small proportion of the postoperative ileus cases in which relief is not given by lavage, enemas and other palliative measures.

The enterostomy for postoperative ileus described in Case 3 brings up the problem of the minimum length of the oral loop consistent with life in selecting a distended loop for enterostomy:

CASE 3.—S. M., a man, aged 19, Russian, was operated on for acute intestinal obstruction produced by evagination of the terminal ileum through a perforated ulcer of the urinary bladder. The stomach and small intestine were markedly dilated down to the terminal 12 inches of the ileum. The technic consisted in freeing the bowel and repairing the vesical ulcer. From the third to the eighteenth day, enemas were ineffectual, and the patient vomited in the absence of mouth feeding. Pituitary extract brought on a copious bowel evacuation with the expulsion of considerable gas on the fourteenth day, but all other attempts at catharsis resulted in failure. The patient's malnutrition increased, although he was not acutely toxic.

Ileostomy on the eighteenth day revealed: (1) distended stomach and dilated three fourths of the small intestine; (2) collapse of the remaining intestine; (3) mesenteric contraction of the collapsed intestine, and (4) adhesions. After ileostomy, the patient's appetite improved, his nausea and vomiting disappeared, and drainage continued profusely. The site of the stoma was apparently somewhere within the middle third of the small intestine. He declared that he could feel his food rushed out of his stomach and intestine into his dressings. The material recovered from the ileostomy was incompletely digested food. Inanition progressed until his death on the thirtieth day after admission.

ORAD LIMIT OF ENTEROSTOMY

Schilling[20] asks, "How long a segment of small intestine can we resect?" and his study of the literature fails to set any limit. Each case has to be decided by the individual condition. One might similarly ask, "How far orad may one safely make an enterostomy?" In the foregoing instance, the lower limit of the dilated intestine was opened, a point probably within 8 feet of the ileocecal valve, but this site did not allow this patient sufficient working intestine to survive with in his wasted condition.

616 Madison Avenue.

ABSTRACT OF DISCUSSION

Dr. Walter C. Alvarez, San Francisco: Unfortunately, knowledge of the physiology of the digestive tract is at the stage at which we can see more than we can interpret. We have to be very careful how we talk about the action of the vagi and the splanchnics. The less you read about it the more you know; the more you work on it, the less you know. Thomas and his associate spoke well when they said that it causes at least temporary contraction in about 59 per cent. of cases and a temporary inhibition and contraction in another smaller percentage. You can add to the complexity of the situation by saying that it causes contraction of the cardiac region and a relaxation of the fundus in one animal, and another thing in another animal. If you stimulate the vagus with a certain rate of induction current or interrupted galvanic current, you will get a certain type of reaction, and if you use another current and different rate you will get another type. And if you perform one experiment and then in a few minutes another experiment, you will get a different reaction. So I will simply say, as a warning: Do not talk with certainty as to what the splanchnics and vagi will do. Some of these disturbances may be due to a local loss of innervation, just as well as to an increase of innervation. If we cut off the nervous stimuli to smooth muscle it will contract down into a hard knot. And that may be an explanation of many of the spasms we see. A pure paresis of the bowel may not mean stagnation and stasis. Experiments were made in which the smooth muscle fibers of the bowel were excised, leaving only the mucosa and serosa. Animals fed on a perfectly smooth liquid diet did well. If given rough material, they would be likely to die. An experiment which I made years ago and which, perhaps, throws a little light on this disturbance was one in which I pinched the bowel in the region of the ileum by means of an elastic. The lumen of the bowel was in no way disturbed and was not closed. After about seven hours, I opened the abdomen of this animal in a bath of salt solution where peristalsis could easily take place, and was surprised to find that there had been absolutely no passage of material through the pinched area. Powerful waves of peristalsis would come down to within perhaps 25 cm., and then would die out or meet with waves coming in the opposite direction. This probably explains why at operation we sometimes find a bowel which will not allow material to go by, possibly because it has been pinched by adhesions or damaged in some way. If you want to avoid marked paresis or reduce the danger of paresis in operations, you must not purge the bowel beforehand. In regard to cases of acute gastric dilatation, you probably all know the value of turning the patient over on his abdomen. This measure saves life in a great many such cases.

Fig. 7 (Case 3).—Semidiagrammatic drawing of intestinal obstruction produced by the passage of the ileum into the urinary bladder through a perforated fundal ulcer.

Dr. Leon T. LeWald, New York: I want to augment two points Dr. Alvarez mentioned. First, he suggested that, in acute dilatation of the stomach, we turn the patient over on the abdomen: I have advocated putting in a stomach tube and using pressure, keeping it up either from a vacuum electric pump or from the vacuum produced by water running. The stomach being paralyzed, no matter how long you wash it out, it will not remain contracted, but will dilate. But by using a negative pressure you will successfully reduce it. I have seen the same thing at operation in the case of the lower bowel. Secondly, a point that bears on the same subject is that I have seen exactly what Dr. Barber has mentioned—gastric dilatation due to shock; and he particularly mentioned it as due to renal shock. In roentgenographing cases for ureteral calculus, we have seen the stomach markedly dilated, and, in a case of rupture of the kidney, the stomach was enormously dilated, almost to the degree that one would expect to see in the very severe cases of acute dilatation of that organ. Another reflex cause, mentioned by Dr. Barber, such as gallbladder disease, is seen in the form of gastric residue due to pyloric spasm. As to the other reflex causes referred to, we have seen those from chronic appendicitis. Some of the conditions described in the discussion of Dr. Lichty's paper were of that type, giving in the roentgen-ray findings almost the appearance of a duodenal ulcer.

Dr. W. H. Barber, New York: I confess that I do not know anything about this vagus nerve function, but I have tried to make some observations on it and to keep them in line with what the authorities have said in regard to the subject. As to the experiment of excising the smooth muscle, leaving only the mucosa and serosa and then having the intestine contract, I do not see how contraction can occur without some muscle left to do the contracting. In regard to turning the patient on his abdomen in case of acute gastric dilatation, I think many of us have found that this measure does relieve such conditions. I recall a case in which there was an enormous dilatation of the stomach following repair of a perforated colon. By turning the patient on his face with pressure on the upper abdomen and with lavage, the condition was promptly relieved.

20. Schilling: Arch. f. Verdauungskr., December, 1921.

CARCINOMA OF THE RECTUM AND PELVIC COLON

AGE- AND SITE-INCIDENCE AND PROPHYLAXIS *

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Proctologist, Columbus Hospital and U. S. Veterans' Hospital No. 30
CHICAGO

In 7,174 cases of carcinoma of the rectum which I have compiled, the majority of the patients were elderly, as might be expected: 1,442, from 41 to 50; 2,072, from 51 to 60, and 1,783, from 61 to 70—or almost 75 per cent. at ages from 41 to 70 years. On the other hand, 235 were less than 30, and forty less than 20 years of age. It is the latter group that I shall consider more especially.

The proverbial reference to rectal carcinoma in the young is the patient (aged 13 years) of the Allinghams;[1] but malignant growths in the lower bowel have been found several times in still younger subjects, as well as in some a few years older: for example, 11 years, two; 12 years, five; 13 years, two more; 14 years, three; 15 years, three; 16 years, two, and 17 years, seven.

For other organs, gastric carcinoma has been encountered at 13 and at 14¾ years; carcinoma of the liver with metastases at 12, and carcinoma of the appendix at the same age. In the mammary gland we find cases at ages approximating the rectal cases, though these are less numerous: 11 years, sarcoma, one; carcinoma, two; 13 years, one; 15 years, one, 16 years, one.

Warthin[2] states that of 2,000 specimens of malignant growths examined in the pathologic laboratory of the University of Michigan, 195 were from subjects of from 1 to 30 years. The only ones in which the

Fig. 1 (Case 1).—Basal-cell carcinoma or squamous epithelioma, slightly reduced from a photomicrograph × 18.

rectum was involved were two of 29 and 30 years; though carcinoma of the ear was found as early as 4 years, and of the skin of the leg at 11. The time limit forbids citations from other organs, but it is apparent that the possibility of malignant disease, even at comparatively tender ages, should be borne in mind.

As regards the site in general, of 1,670 cases, the growth was in the ampulla in 1,250, and in the anal canal in 178. That is to say, a total of 1,428 subjects had their cancerous tumors within reach of the examining finger; in the remaining 16 per cent. they were higher up the bowel or at the rectosigmoid junction. So far as the site in the bowel itself is concerned, the anterior wall is generally involved—487 of 824 cases;

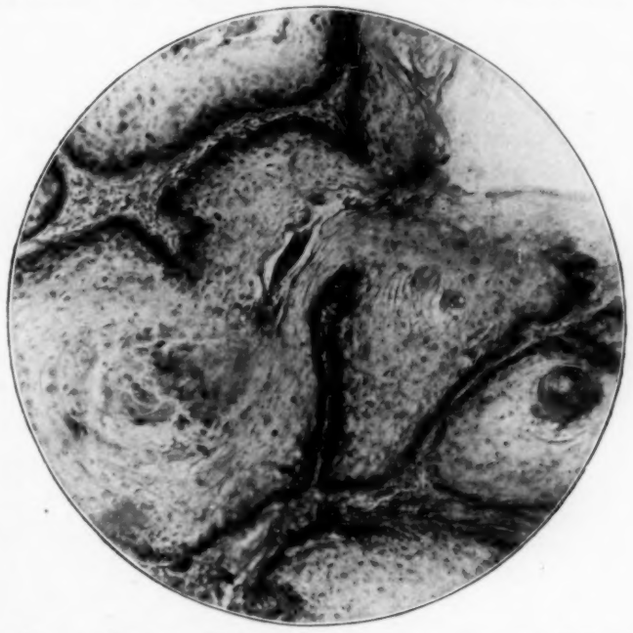

Fig. 2 (Case 1).—Basal-cell carcinoma or squamous epithelioma, slightly reduced from a photomicrograph × 90.

the posterior in 250, and the lateral wall in only eighty-seven.

Coming now to carcinoma of the pelvic colon, it, too, is sometimes encountered at an early age: boys of 9, 14 and 15 (two), and a girl of 12 (Philipp[3]), though the average again is from 52 to 53 years.

Every proctologist knows that examination in rectal carcinoma is urgently needed. In 104 patients seen in Paris, eighty-five had been treated for weeks or months for constipation, hemorrhoids or colitis, without any examination whatever. Of twenty-three recent ones from this country, fourteen had never been palpated. There is less excuse for this since, as just shown, 84 per cent. of 1,670 patients were within reach of internal palpation. Again, of the 491 examples referred to by Lynch,[4] 69 per cent. were within 4 inches of the anus.

Internal palpation alone, or combined with proctoscopy and sigmoidoscopy, is our chief reliance in diagnosis, because none of the serum and other tests so far introduced have proved reliable. Moreover, this simple method requiring only a finger-cot and some lubricant, both omitted if necessary, was successfully used in 108 of the 151 instances referred to by Foges,[5] a few years ago.

It is absurd, it seems to me, to give bleeding, pain and diarrhea as early diagnostic features of carcinoma

* Read before the Section on Gastro-Enterology and Proctology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Allingham, William, and Allingham, H. W.: The Diagnosis and Treatment of Diseases of the Rectum, Ed. 6, New York, 1896.
2. Warthin, A. S.: The Occurrence of Malignant Neoplasms in the Young, Arch. Int. Med. **15**: 444 (March) 1915.
3. Philipp, P. W.: Ztschr. f. Krebsforsch. **5**: 326, 374, 1907.
4. Lynch, J. M.: Cancer of the Rectum and the Pelvic Colon, J. A. M. A. **69**: 1775 (Nov. 24) 1917.
5. Foges, A.: Wien. med. Wchnschr., Oct. 3, 1913.

of the rectum. By the time they are in evidence, the damage is generally done. The principal remedy, I believe, as I have often pointed out in the last decade, consists of repeated, systematic examinations after the so-called "cancer age" is reached. The time of life at which malignant tumors are found may be less than long ago, or more careful examinations are made; or, lastly, more instances are placed on record. At any rate, it would seem that they could be begun profitably at a considerably younger age than has been the custom. Of course, this would hold good for any other organs liable to invasion and accessible to exploration.

It is not rehash but education that is needed. We know that chronic irritation plays a part in the causation of cancer; that cancer never begins in healthy tissue, and that it is curable in the precancerous and early stages. Some preexisting condition, then, is necessary for its start. Shall we tell this to the people and help them to avoid the terrible disease, or shall we sit idly by? Shall we voluntarily begin educating the public, or shall we wait till the public compels us to do it? That is the important question.

We must educate people to get rid of any ailment or condition they may have which fosters the development of cancer. We know that extracting an infected tooth or removing a diseased tonsil or an infective hemorrhoid may relieve neuritis of the arm or pain in the region of the stomach, and so on. Since this is true, is it not true also that, if we had recognized and removed the diseased tooth, tonsil or hemorrhoid earlier, the neuritis or paragastric pain would not have developed? If this holds good with reference to benign disease, it should *a priori* hold good in malignant conditions as well.

The members of this section know that such continued examinations are usually wise when persons have been operated on for hemorrhoids or fistula; carcinoma sometimes appears years afterward in the scar. We should tell people that "flivvers" and other makes of automobiles are overhauled constantly, as are watches; is there any good reason why they should neglect their own bodies? About the only medical inspections fashionable so far are those of the eyes and teeth.

Such advice, however, must be couched in temperate terms, so as not to alarm the people at large—cancerophobia is almost as bad as the dire affection itself. But we should remind them of the saying of Benjamin Franklin: "In times of peace prepare for war," though I would change this to: "In time of health prepare for disease."

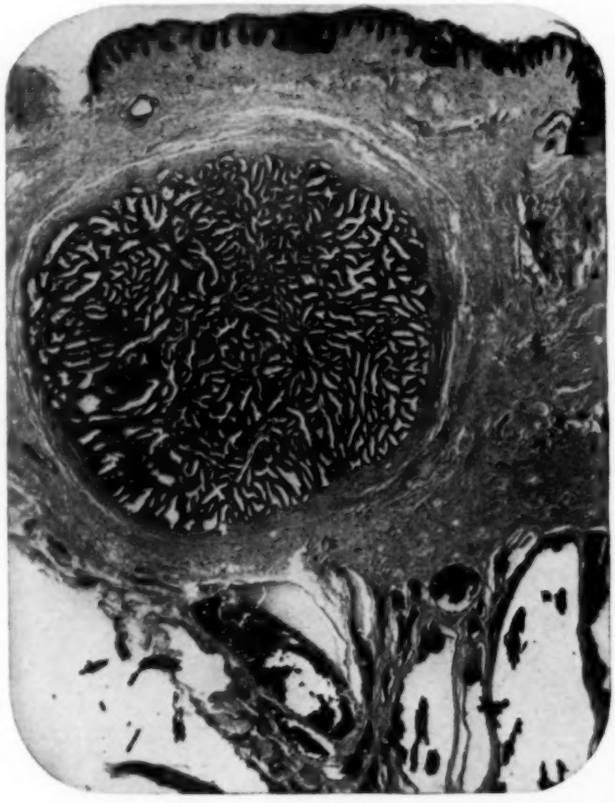

Fig. 3 (Case 2).—Adenoma or malignant adenoma; ×16.

In common with other physicians, I have come across cases of insidious development, in which carcinoma or sarcoma was discovered accidentally during the search for some entirely different—often benign—condition. But, as Kipling writes: "That is another story."

REPORT OF CASES

CASE 1.—A man, aged 53, had an inveterate pruritus ani for six years, and diabetes for three. In the left posterior anal quadrant of the perianal skin were two small fissures. As the edges of both of these were very hard, and in one were undermined and constantly discharging a small amount of pus, and neither would yield to local treatment, I advised excision. The laboratory report (of the one with undermined edges) was "basal-cell carcinoma." This is a very unusual site, for we know that the vast majority of these neoplasms are situated above the clavicle; consequently I submitted the specimen to another laboratory, the report from which was "squamous epithelioma" (Figs. 1 and 2).

CASE 2.—A woman, aged 50, had a growth, the size of a small pea, on the edge of a hemorrhoid. The report from one laboratory was "adenoma"; and from another, "malignant adenoma." The question now is: "When doctors disagree, who shall decide?" (Figs. 3 and 4).

31 North State Street.

ABSTRACT OF DISCUSSION

DR. WILLIAM M. BEACH, Pittsburgh: Cancer has been the riddle of the ages. One out of every eleven human beings is subject to cancer or has cancer at some time in his life. Everybody who discusses the subject of cancer says: Observe the early symptoms of cancer and then we shall have a chance to do something. The question is, What are the early symptoms? It is said that about 3 per cent. of all cancers are out of sight and therefore cannot be observed by the surgeon. So it is a difficult matter to determine on a set of symptoms. However, in cancer of the rectum and pelvic colon the chief symptom registered is that of sudden constipation occurring in a person who has previously been normal in this respect. As Dr. Pennington has said, these patients who come to us have cancerophobia. Physicians are duplex personalities. These people want the truth, yet we shall have a camouflage. It is almost death to a person to tell him that he has cancer. We have to get around it some way and evade the answer. The important part of Dr. Pennington's paper is that in which he dwells on the education of the public on this question. I would say, Educate the profession with reference to cancer, especially when located in the rectum and colon. Any physician can examine the rectum and locate a cancer if it is there, but he may not be energetic enough to do it. We cannot make a complete examination of any case and leave out rectal examination, when having in mind a disease of this kind. The author details at some length what public education on this subject should be. Surgeons tell us that when moles and "lumps" appear on the surface they should be removed. In the same way, anything wrong about the anus or rectum

should be attended to. Any pathologic condition here is a potential or possible factor in the development of cancer.

DR. RALPH W. JACKSON, Boston: In spite of persistent study of the problem of cancer of the rectum and rectosigmoid, we cannot feel much more optimistic about it than we did ten years ago, for, though the percentage of relief from recurrence may be greater than formerly, such relief, in most cases, involves a permanent colostomy, which to many patients is almost as much of a calamity as death. The almost symptomless and insidious onset of cancer in these parts puts the patients on the verge of hopelessness for a permanent cure when they come to us. Prophylaxis and early diagnosis offer the only hope. Prophylaxis can mean very little when we know so little of the real etiology of cancer. We can do little more in this matter than educate the public to less belittling of the necessity for regular alvine function, thus lessening the important causative factor of unduly prolonged pressure of constipated feces at the rectosigmoidal juncture, the commonest site of such cancers, and to less belittling of pathologic changes of the anus, which may be the beginning of the less common anal epithelioma. Early diagnosis may mean somewhat more, but here we have to educate the laity and the profession. They both belittle persistent alteration of previous bowel regularity, which is the one suggestive symptom of cancer, almost irrespective of age. This can be overcome only by the creation of a more or less general cancerophobia or by enforced general physical examination. General cancerophobia is not a nice thing, but it is better than the disease itself, and general enforced examination can come only as the result of increased paternalism, which most of us think has already overrun this country. We have harped on the neglect and reluctance of the general practitioner to make simple rectal examinations, usually adequate for diagnosis, till the subject is threadbare; yet it is as true as ever. Dr. Pennington has spoken of the site-incidence of cancer of the rectum, but not of the differing possibilities of metastasis from the various sites. Mr. Ernst Miles of London has classified three zones of spread, viz., upward, lateral and downward. Cancer at or above the rectosigmoidal juncture is most likely to metastasize through the retroperitoneal lymphatics and possibly through the portal system to the liver and, perhaps, to the spleen; cancer of the ampulla is most likely to spread by continuity to the surrounding pelvic structures, and cancer of the anus is most likely to metastasize through the perineal and inguinal lymphatics to the groins. These facts will influence our prognosis, our decision as to the nature and extent of operation, and the necessity for laparotomy.

Fig. 4 (Case 2).—Adenoma or malignant adenoma, slightly reduced from a photomicrograph × 60.

DR. JOHN D. STEWART, New York: Dr. Pennington has brought up one of the biggest questions in major surgery today. Early diagnosis in conditions like this is of paramount importance. Age is something we cannot pay too much attention to, otherwise we are in danger of failing in diagnosis. Patients frequently consult us with long standing ulcerative affairs. They are much more likely to have a malignant condition develop in a location like that, than would be the case if everything were perfectly normal. We know that a man who smokes a pipe incessantly with a fissure on his lip is more likely to have an epithelioma develop there than the man who takes proper precautions. As to the age of persons with cancer of the rectum, I have seen patients with adenocarcinoma of the rectum whose ages varied from 17 to 82. Allingham reported a case at the age of 13. I believe that the majority of patients with cancer of the rectum whom I have seen in the last two years have been well under 50. Past the age of 70, malignant conditions of the rectum are exceedingly rare. The most frequent location of cancer of the rectum is at the rectosigmoidal line, which from the operative standpoint is unsatisfactory. About 62 per cent. of cases of cancer of the rectum are found at this junction. Unfortunately, in cancer of the upper rectum and sigmoid, pain and hemorrhage are not present until the condition is well advanced. If any one should ask what is the earliest symptom of cancer of the rectum, I would say that constipation probably comes first. However, in cases that are low down in the anal canal, there is pain from the very onset.

DR. LOUIS J. HIRSCHMAN, Detroit: If the life insurance companies, the medical departments of the army and navy, and industrial concerns which require physical examination of applicants for insurance or position in the service would spend less time on questions of heredity and more time on definite and detailed provisions for exact and thorough examinations of all the cavities of the body, we would get somewhere. The older physicians were not instructed properly in these matters, and the younger are not interested because that branch of medical practice is so poorly compensated that the examination is not made thoroughly. Detailed examination by the army, the navy, or the industrial concern, with information that thorough examination has been made, will help to detect many potential carcinoma cases early. Let us forget the term cancer age, because if a patient is not in the "cancer age," the possibility of cancer in his case is forgotten. Every patient is a potential cancer patient, no matter how old or how young. Every patient who complains of disturbed physiology of the gastro-intestinal tract should be thoroughly examined with the possibility of cancer in mind. The presence of hemorrhoids or fissures or polypi is not a contraindication to the presence of carcinoma a little farther in.

DR. JOHN L. JELKS, Memphis: The statement that any physician could make the diagnosis must be refuted, because proctologists know good physicians who make these examinations and do not discover cancer even in the rectum. Sometimes even proctologists might overlook a small, even already malignant tumor if examining the patient in a hurry. The symptoms in many cases are nil. In early, in middle or in late cancer, of course if one had a symptom one would look for the cause. But one cannot depend on it. Adenoma, which has been considered nonmalignant by so many, is a potential cancer. The profession is as derelict as the laity. Think of the great numbers of the profession who do not come to these meetings, and many of whom do not even read cancer articles. Therefore, let us remove potential cancers even though they are considered benign.

DR. A. L. LEVIN, New Orleans: I have been making a study of syphilis of the gastro-intestinal tract with the view of finding a possible frequency of mistaken diagnosis. I have found several very interesting cases in which a mistake was made by leading surgeons, a syphilitic lesion having been mistaken for cancer.

DR. J. R. PENNINGTON, Chicago: The general practitioner is entitled to the same information as the specialist; consequently, I intended that this paper should contain statistical and other information not readily obtained by the average physician. Dr. Hirschman is to be commended for his valuable suggestions, and were they put into practice by insurance companies and others they would do much for the control of this dreaded disease.

A CLINICAL AND ROENTGENOGRAPHIC STUDY OF GASTROPTOSIS

OBSERVATIONS IN ONE THOUSAND GASTRO-INTESTINAL PATIENTS *

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The roentgen ray has added much to exactness in the diagnosis of gastro-intestinal diseases, and from it we have learned many things that are helpful in treating conditions about which we formerly did a great deal of guessing. The general use of the roentgen ray, however, has not been without some misinterpretations of its findings. This is particularly true of gastroptosis, which, though only an incidental part of a general bodily habitus and always associated with enteroptosis, is being treated as a separate entity by many who seem not to understand the underlying etiologic factors of visceroptosis.

Much of the misconception regarding gastroptosis comes from the teachings of textbooks on anatomy and physical diagnosis which assert that the normal position of the stomach is in the upper left quadrant of the abdomen, the dome lying in the vault of the diaphragm, and the lower border about 2 inches above the umbilicus. Anatomists formed their opinions regarding the normal position of the abdominal viscera from necropsy findings made on cadavers lying on their backs, and they were correct in their statements regarding the average position of the stomachs of persons in the supine position. They seemed not to learn, however, that the stomach is a highly mobile organ, and that the normal stomach of a perfectly healthy person while standing may rest in the false pelvic cavity, but when he lies down may gravitate to the upper left quadrant of the abdomen. Diagnosticians fell into the same error because their examinations of the abdomen were also made on patients in the supine position.

Before the advent of the roentgen ray there was a lot of "poetry" about locating the position of the stomach and other abdominal viscera. If one will attempt to outline a stomach by percussion, auscultatory percussion, with or without inflation, or by splashing sounds (Obrasztow's method), and check up his findings by the roentgen ray, he will be forced to admit a very large percentage of error. With the roentgen ray the location of the stomach in various positions of the body can be studied with exactness.

ROENTGEN-RAY STUDIES OF GASTROPTOSIS

In our roentgen-ray studies on gastroptosis, the most important findings have been the marked degree of mobility of the stomach, which is affected by the position of the individual, by the weight of the stomach contents and by the tension or relaxation of the abdominal muscles. We have endeavored to determine the normal position of the stomach in a study of 1,000 cases, and have come to the conclusion that in the supine position the textbook teachings are correct; but in the upright position there is a wide normal variation depending on the anatomic make-up of various types of individuals. Indeed, there seems to be as much difference in the size, contour and position of the stomachs of men as there is of their mouths.

We have also come to the conclusion that so far as gastric digestion is concerned, it matters very little whether a stomach is in the high position or in the brim of the pelvis, so long as its muscular tonus is good and the intra-abdominal pressure is normal. We have repeatedly found patients whose stomachs in the upright position were as low as it is possible to be, and yet who had no evidences of gastric indigestion. We have found others, with a marked degree of gastroptosis, who complained of various digestive symptoms, yet after the relief of the gastric atony or with the use of a properly fitting abdominal supporter, and after a few weeks' regimen of hyperalimentation and abdominal exercises, all their discomfort disappeared though the position of their stomachs was not changed. Indeed, the location of the stomach seems to have but little to do with the performance of its normal function; and in our opinion there is no one normal position of the human stomach.

The position of the stomach depends to a great extent on the type of the individual. In the so-called normal human type of average height and weight the stomach will be in the so-called normal position, i. e., the lowest point of the greater curvature being above the umbilicus. The same is true of stout persons, as a rule. On the other hand, in the slender person with the long flat or narrow chest and with the slender abdomen, in the standing position, the stomach almost invariably will be found in the left lower quadrant of the abdomen, a position entirely normal with this type. The position of the stomach will vary from these two extremes as there are differences in the size and shape of the chest and abdomen.

It is not the position or the shape of the stomach that the physician need be concerned about but its tonus. If the muscular tonus of the low-lying stomach is good, there are no symptoms. However, the roentgen ray has demonstrated the fact that the stomach in the high position is more frequently normal in tone than one that is found low in the abdomen. We have repeatedly observed on fluoroscopic examination of persons in the standing position that the atonic stomach would be changed into a hypertonic one when the patient contracted his abdominal muscles, thus increasing the intra-abdominal pressure. It would seem from this observation that the problem in dealing with gastroptosis is not with efforts to treat the stomach so much as with measures to strengthen and develop the abdominal muscles, or to increase intra-abdominal pressure temporarily by means of properly fitting abdominal supporters.

INFLUENCE OF BODILY HABITS

Perhaps the most important contributions to the literature on visceroptosis have been the series of

* Read before the Section on Gastro-Enterology and Proctology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

articles by Goldthwait.[1] In his Shattuck Lecture he classifies man into three anatomic types: (1) the normal type with the moderately full and rounded thorax and upper abdomen, with costal arch from 70 to 90 degrees; (2) the splanchnoptotic (Glénard), congenital visceroptotic (Goldthwait) or carnivorous (Bryant) i. e., the slender individual with the flat chest, the costal arch being an acute angle, a narrow upper abdomen and bulging lower abdomen; and (3) the herbivorous (Bryant) of heavy build, broad back and large skeleton with excessive fat throughout the body. Goldthwait lays much stress on posture, and blames the relaxed muscles and ligaments for many of the ills which are usually ascribed to visceroptosis. He says that "the body is most intimately related in its different parts so that no one can be used wrongly without the whole suffering. For this reason if these various groups of symptoms are to be considered as purely local and distinct lesions, the results are sure to be unsatisfactory. The body as a whole should be considered and not just the chest or abdomen or other part."

Mills,[2] in a comprehensive roentgen-ray study of the form and position of the stomach, concluded that "certain types of physique are constantly associated with certain types of visceral topography, tonus and mobility." He classifies them into two dominant ones: (1) hyperasthenic habitus, the individual of massive build with stout thick chest and long abdomen; and (2) asthenic habitus, characterized by frailty of build, long, narrow, shallow thorax and short abdomen, with relatively wide pelvis. He adds to this two major types, sthenic and hyposthenic, and declares that the build of nearly all individuals will fall within these four groups, though he further subdivides the bodily types with their accompanying peculiarities into subtypes tending to the four major types.

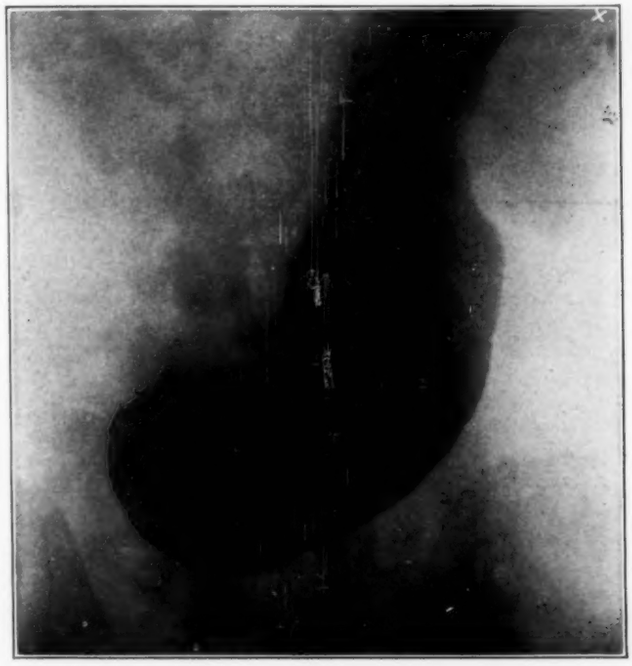


Fig. 1.—Gastroptosis: stomach 2½ inches below umbilicus; relaxed abdominal muscles.

ETIOLOGY

Gastroptosis is a condition, not a disease. It is so frequently found that it can hardly be called an anomaly. It should be termed a physical characteristic. In our opinion gastroptosis, which we reiterate is merely one phase of a bodily habitus in which there is general visceroptosis, is nearly always of hereditary origin. Therefore, in searching for the etiologic factors in gastroptosis, the ancestry of the individual is the most important thing to be considered. It is probable that certain races have gastroptosis more than others, and that the mendelian law applies to the form and position of stomachs as well as to the color of the eyes, and to other family and racial characteristics.

If two persons with visceroptosis marry each other, all their children probably will have a low position of their stomachs and other abdominal viscera. If a narrow chested person with the long, slender abdomen marries one of the so-called normal or stout type, it is probable that in their offspring the abdominal viscera will be in a position between the so-called normal and the extreme visceroptosis, unless one or the other should be of the dominant type. If it were possible to mate human beings of different types as the Austrian monk did the Andalusian fowls, it is probable that the positions of their descendants' stomachs could be foretold with the same degree of accuracy as the varying colors of fowls can be determined before they are born. If the science of eugenics could be applied in mating the stout human beings with the slender habitus enteroptoticus type, it is probable it would result in marked racial improvement for the reason that the slender types as a rule have brighter minds and more agile bodies, while the thick, broad types have better mental poise and greater physical endurance.

In our opinion, what is called gastroptosis is normal with a large proportion of men and women who go through life without any digestive symptoms. It is an accepted fact, however, that the person with gastroptosis is more likely to have gastric disturbances than one of the normal type, just as the man with cardioptosis, or the so-called "congenital" heart, under the stress and strain of military service develops functional cardiac symptoms. Indeed, the same type of individual inherits cardioptosis, nephroptosis, gastroptosis or enteroptosis, as he does a more or less unstable nervous system. If such a person lives within his limitations he or she can be as efficient and as happy as one of the so-called normal type. Indeed, there seem to be certain advantages which the highly strung, slender person has over a person of the phlegmatic or stout type. Many of the most brilliant, the most efficient and the most useful men and women of our acquaintance belong to the type who have gastroptosis. It would be interesting to have roentgenograms made of the stomachs of the 100 leading medical men in the United States. In thinking over the bodily characteristics of the most celebrated physicians of our acquaintance, we are convinced that at least half are of the habitus enteroptoticus type, and that the roentgen ray would reveal that perhaps the majority have gastroptosis.

Indeed, it seems that the more highly developed the race, the more likely it is to have visceroptosis. There

1. Goldthwait, J. E.: An Anatomic and Mechanistic Conception of Disease, Boston M. & S. J. **172**: 881, 1915; The Real Significance of Visceroptosis, Pennsylvania M. J. **17**: 523 (April) 1914; Orthopedic Principles in the Treatment of Abdominal Visceroptosis and Chronic Intestinal Stasis, Surg., Gynec. & Obst. **16**: 587 (June) 1913.

2. Mills, R. W.: The Relation of Bodily Habitus to Visceral Form, Position, Tonus and Mobility, Am. J. Roentgenol. **4**: 155-169 (April) 1917.

are no statistics to prove it, but we have the impression that the English, the Scotch and their descendants in America will show a larger proportion of persons with visceroptosis than will be found among the Teutonic and Latin races. In the study of our cases we have also been impressed with the high percentage of gastroptosis among patients of Jewish descent.

Patients will frequently give a history of falls or injuries to the abdomen which they have been told is a cause of "fallen stomach," but in the light of our present knowledge it would seem that trauma plays but little, if any, part in producing gastroptosis.

Oschner, in a recent communication, says: "I believe that one of the frequent causes of gastroptosis and enteroptosis is the extreme gaseous distention of the abdomen due to faulty feeding during the infant's first year of life, with overstretching of all the ligaments which normally should support the stomach and intestines." The same thought has occurred to us,and one of the questions that we ask all our gastro-intestinal patients is: "Did you have digestive disease during infancy?" We have found many cases in which the symptoms date back to improper feeding during the first years of life. We are convinced, however, that the digestive disease in infancy is more responsible for atony of the stomach and intestines, which causes the symptoms usually ascribed to gastro-enteroptosis, than it is in bringing about ptosis of the abdominal viscera.

Fig. 2. — Effect of voluntarily contracting abdominal muscles in increasing gastric tone, stimulating peristalsis and elevating stomach to level of umbilicus.

OBSERVATIONS FROM A STUDY OF 1,000 PATIENTS

In a series of 1,000 patients studied by us during the last eighteen months, roentgen-ray examinations in the standing position disclosed that in 551 (55.1 per cent.) the lower border of the stomach was more than 2 inches below the umbilicus. These were all adult white patients, most of them native Alabamians, though a few were from Mississippi, Tennessee, Georgia and Florida. The ancestral lines of the great majority of whites in these states came from England, Scotland and the North of Ireland; and they conform to the physical characteristics of the English and Scotch, who are likely to be tall and slender, though hardy races physically.

Dr. Frank Smithies [3] reports that in a recent study of the position of the stomach in 600 persons, gastroptosis was noted in 198. It is presumed that Smithies' patients were from Chicago, in which city there is a large proportion of population of Teutonic and Slavic ancestry, while in our series of cases a very large proportion descended from the English and Scotch. This view of visceroptosis being a radical characteristic is also held by John Bryant of Boston, who in a recent personal letter said: "The thin type of humanity which is particularly subject to visceroptosis is certainly more frequent in the streets of this country than in the streets of Hamburg or Berlin."

It seems that gastroptosis is less frequent in males than in females. In our series of 1,000 patients, 532 were males and 468 females; of the 551 who had gastroptosis, 226 were males and 325 females. In Smithies' series of 300 males, only thirty-six had gastroptosis, while of 300 females, 165 had gastroptosis. The biologic fact that the female of the species is never so well developed physically as the male seems to apply to human beings. Unquestionably, deficient muscular development with associated relaxation of all the ligaments of the body has much to do with the occurrence of gastroptosis.

The age decades were not taken in the study of the first 500, but in the last 500 cases, they are: seven between 10 and 19; sixty-five between 20 and 29; ninety-five between 30 and 39; sixty-six between 40 and 49; twenty-nine between 50 and 59, and eleven between 60 and 69 years. We feel that no importance can be attached to age in gastroptosis in this series because all of our patients were adults and the proportion in this study is practically the same as those with the normal habitus.

Child-bearing has always been mentioned as an important etiologic factor in gastroptosis, and undoubtedly it does have some relation to the relaxed abdomen; but it is doubtful whether it has any bearing on visceroptosis. In our series, out of 325 females, only 182 have children, and there are 226 males, so that only about 58 per cent. have borne children. We think it likely, however, that women who have borne children are more prone to have digestive symptoms, because they often have relaxed abdomen with a consequent lowered intra-abdominal pressure.

SYMPTOMS

Gastroptosis is not a disease entity, and therefore is not responsible for the symptoms usually described as resulting from or associated with that condition. Persons of the type whose stomachs lie low in the abdomen undoubtedly are more predisposed to functional gastric disturbances than are the persons of the so-called normal and herbivorous types (Goldthwait): the "sthenic" and "hypersthenic" types (Mills). The "asthenic" or "hyposthenic" individuals are also more susceptible to nervous disturbances. It is also to be remembered that the men or women with gastroptosis are mentally more alert and physically more active than are the "sthenic" or "hypersthenic" types.

3. Smithies, Frank: Gastroptosis, in Ochsner's Surgical Diagnosis, Philadelphia, Lea & Febiger 2: 609, 1921.

The symptoms usually ascribed to gastroptosis may be due to many causes both intragastric and extragastric, and they are the same without relation to the position of the stomach. In other words, the person with gastroptosis may have any gastric or intestinal disease, though he is especially predisposed to atony of the stomach and intestines. A study of the records of our 551 patients who had gastroptosis shows that 345 complained of gaseous eructations that come on at varying times after meals; fifty-eight gave a history of sour belching, and 105 had vomited at some time. These are not different, however, from the symptoms of which the 449 complained who did not have gastroptosis. Their symptoms are those that are usually seen in atony of the stomach from any cause.

Constipation, usually of the atonic variety, was present in 389 of the 551; diarrhea was present in twenty-six, and 136 reported their bowels as being regular. It is significant that 200 had indicanuria, which, when considered with the fact that more than two thirds were constipated, would seem to indicate that intestinal toxemia is an important factor in the symptoms usually ascribed to gastroptosis.

The nervous symptoms are those which predominate in our series of patients who had gastroptosis. Out of the 551, 340 gave a history of being nervous. Headache was complained of by 279. Vertigo was another annoying symptom with many of them. Muscular weakness and the general fatigue syndrome were prominent complaints with many, though our records are not complete on this important syndrome in visceroptotic patients.

Fig. 3.—Horizontal position, patient on back, showing how completely the stomach regains the normal position. It is unnecessary to elevate the foot of the bed, as is commonly practiced.

LABORATORY FINDINGS

The laboratory records of the 551 patients with gastroptosis may be of interest. Of the 551, only seventy-eight were found to have what is called normal degrees of hydrochloric acidity, that is, from 20 to 30 points; fifty-six had low acidity, and twenty-three achylia, while 247 had an increase in the amount of hydrochloric acidity. These figures are not very different in proportion than those obtained by Rehfuss in persons who gave no history of indigestion. They show that hyperchlorhydria is of about the same frequency among persons with gastroptosis as those who believe themselves normal.

Urinalysis revealed albumin in eight, sugar in nine, indican in 200; while in the 449 whose stomachs were in the so-called normal position, there was albumin in twenty-one, sugar in thirteen and indican in 160. This would seem to indicate that those who have visceroptosis suffer more from intestinal toxemia, while those of the stout type are more prone to nephritis and diabetes. Occult blood was found in the stools of 169 of the 1,000, ninety-one of the 551 with gastroptosis, and seventy-eight of the 449 with the high position of the stomach. Nearly all of these were ulcer or cancer patients.

Until the past year we did not make routine Wassermann tests, getting specimens only in the cases in which there was reason to suspect syphilitic infection. Of the 1,000 patients, 509 had one or more Wassermann tests, and of that number only seventeen were positive. We doubt whether any of the other patients would have had positive Wassermann reactions if the test had been made with them. This leads us to make the irrelevant statement that syphilis plays a very small part in the etiology of the gastro-intestinal diseases among the better class of people in Alabama and surrounding states.

The fact that the Wassermann reaction was positive in nine of the 551 gastroptosis patients, while plus in only eight of the 449 who did not have gastroptosis, cannot be of any significance.

TREATMENT

The mere fact of finding on roentgen-ray examination that a patient's stomach is low down in the abdomen does not necessarily mean that he needs treatment directed toward that organ. If his physical poise is good and his abdominal muscles well developed, or if he has sufficient fat in the retroperitoneal spaces to keep the intra-abdominal pressure high enough for gastric and intestinal function not to be interfered with, he needs no treatment though his stomach rests on the brim of the pelvis. If, however, as is frequently the case, the person who has gastroptosis is undernourished and he has relaxed abdominal muscles, he should be given treatment directed toward improving nutrition and with the effort to develop every voluntary muscle in the body, particularly those of the anterior abdominal wall. Such patients are usually in a state of chronic fatigue, and the psychasthenic element also demands attention. In other words, it is the patient as a whole and not the stomach that should receive the physician's attention.

The treatment of gastroptosis is not so much a matter of medicine as of educating the patient. He should be taught that gastroptosis is a part of visceroptosis, which in turn is associated with an inherited bodily habitus.

Psychic treatment is very helpful, particularly systematic encouragement, pointing out the fact that many of the happiest, most efficient and most useful men and women in the world are those of slender, more or less frail bodies, with visceroptosis, who live within their physical limitations.

The visceroptotic individual should be taught the essentials of diet and nutrition: that if he would be comfortable he must eat a full diet, with a liberal quantity of butter, cream and other fats; plenty of the starchy and green vegetables, and the cereals; and 1

Fig. 4.—Gastroptosis is usually associated with general visceroptosis. The colon is very low on the pelvic floor.

or 2 quarts of milk a day. Bryant has pointed out that eggs and meats increase the toxemia in the visceroptotic individual, whom he calls the "chronic intestinal invalid." Sufficient proteins may be obtained from the milk and the legumes (beans, peas, etc.), though a small portion of tender meat (beef, lamb, chicken or fish) may be allowed once a day. Particularly should the patient with the habitus enteroptoticus be taught the diet and other measures to overcome constipation and correct intestinal stasis and the resulting toxemia.

THE REST CURE

Rest in bed for a period of from four to six weeks is necessary in many cases. A "rest cure" in an infirmary or sanatorium is best when the patient can afford such treatment. It is difficult to treat visceroptotic patients in their homes because it seems almost impossible for them to carry out in their accustomed environment the daily regimen required to increase nutrition and to develop the muscles. While the patient is in bed, his physician has the opportunity of directing his reading and of giving him daily talks on what he should do to get well, and of pointing out the routine to follow to keep well after his return to his home. In rare instances very intelligent patients have carried out the treatment successfully at home.

Many clinicians have the foot of their visceroptotic patients' beds elevated from 2 to 4 feet, while some advise the knee-chest position several times a day in order to get the stomach in what they call the normal position. We have proved by many roentgen-ray examinations that the normal curve of the lumbar (spine) and the contour of the abdomen with the very smooth surfaces of the viscera and parietal peritoneum are sufficient to allow the stomach and intestines in the visceroptotic person to glide into the upper portion of the abdomen. It is, therefore, wholly unnecessary to have the patient lie in an uncomfortable position with his head down and feet up in order to elevate the abdominal viscera.

The physical training of most persons is neglected, and the physician who treats visceroptosis must educate his patients regarding the exercises which tend to develop every voluntary muscle of the body. Especial attention should be paid to deep breathing exercises and those that develop the chest and abdominal muscles.

EXERCISES

There are many good systems of exercises in treating visceroptosis, any of which may be used. We have modified a group of exercises of considerable vogue with the idea of using every large group of voluntary muscles in the body, and have taught the movements to many patients, who report that they enjoy their morning exercises and bath, followed by massaging the entire surface of their bodies with the palms of their hands. One advantage of these exercises is that they require no apparatus, and they can be carried out in a very small room, most of them in a sleeping car berth. The patient begins with four of each exercise and increases one each day until he or she is taking sixteen of each before the morning bath. They may be repeated at night, provided one is not too much fatigued.

OPERATIONS NEVER INDICATED

The operation of fixation of the stomach for gastroptosis is mentioned only to be condemned as irrational, meddlesome surgery. The stomach is a very mobile organ, and no part of it should ever be fixed as is the effect in all the various types of gastropexies proposed

Fig. 5.—Effect of the dorsal position in elevating the stomach and colon several inches.

for gastroptosis. Roentgen-ray examinations by many different observers disclose that the operation does not permanently elevate the stomach, and many cases have been reported in which the patients were in worse condition after the operation than they were before they

were subjected to an operation which is not without serious danger to life. Our view that gastropexy is never a justifiable operation has been so pronounced that we sent questionnaires [4] to a number of prominent surgeons and gastro-enterologists asking their opinion of the merits of gastropexy. Replies were received from all but two, and without exception they condemned the operation. Among the surgeons who consider gastropexy an unjustifiable operation may be mentioned Drs. J. M. T. Finney, W. J. Mayo, Joel E. Goldthwait, Stuart McGuire, George E. Brewer, W. D. Haggard, Hugh Cabot, H. A. Royster, Charles A. L. Reed, W. W. Crawford, James E. Thompson and Louis Frank.

Fig. 6.—Exercise in the horizontal position: The chin is touched to the chest.

The following gastro-enterologists heartily disapprove of any method of gastrofixation: Drs. Max Einhorn, George Roe Lockwood, John Bryant, Thomas R. Brown, Charles D. Aaron, Joseph Sailer, Julius Friedenwald, John A Lichty, William Gerry Morgan, Horace W. Soper, Sidney K. Simon and Franklin W. White. There can be no question that the consensus of opinion among both surgeons and gastro-enterologists is opposed to any operation which proposes to elevate and fix the stomach in any given position in the abdomen.

ABSTRACT OF DISCUSSION

DR. JOHN BRYANT, Boston: Dr. Harris states that gastroptosis is of hereditary origin. I have done a certain amount of work on the anatomic aspect of this question, and I have not been able to find the stomach low in the fetus. It is a wholly acquired condition. On the other hand, I think it is true that it is a familial trait. Members of families through various generations are subject to visceroptosis. Dr. Harris referred to the question of a high degree of development in relation to gastroptosis. I think it is a question whether the people with a so-called high degree of development are not somewhat undifferentiated. Many of their reactions are the same as those of children. One reason why they are brilliant is that they put everything into what they are doing and go the whole distance without thinking what is going to happen. There are many things in the anatomic field which suggest that visceroptosis is a reflection of an arrested development. As regards treatment, from a general point of view I think that visceroptosis is an indication of easy fatigability of the individual. If that is true, the treatment is adequate rest, and it must come often enough to catch the person before he gets too tired. It is well known that the curve of fatigue is a parabola. It starts almost flat, then increasingly falls. In order to keep these people going and improve their condition with the least possible waste of time, one has to order enough rest periods to catch the patient before he begins to go down hill. From a practical point of view, I have found that perhaps the most valuable thing in the whole field of treatment is a five minute rest period in every half hour. That may sound extreme, but you can get many people to give up that much time when they would not think of giving up an hour in the middle of the day. And I think five minutes every half hour is infinitely more valuable than a longer rest period in the afternoon.

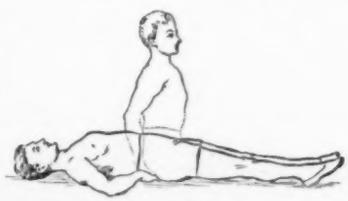


Fig. 7.—Exercise for strengthening the abdominal muscles: The body is raised from the horizontal to the sitting position, the legs being kept straight.

DR. A. L. LEVIN, New Orleans: I should like to ask Dr. Harris if, in his cases of gastroptosis or enteroptosis, he has made observations a year after carrying out the line of treatment suggested—diet, rest and exercises—to determine whether the low position of the stomach or intestines has been corrected; in other words, whether he has made exact pictures to demonstrate that his treatment succeeded in causing the intestine or stomach to lift itself upward so that the intestinal toxemia is relieved. After the symptoms are removed by treatment, we should see then that the stomach and intestines have lifted themselves, thereby relieving the toxemia, if the latter is due to this cause. If we find the stomach and intestines still low and yet the condition is improved, then the malposition of the organs is not the cause of the pathologic condition.

DR. ANTHONY BASSLER, New York: In answer to Dr. Levin, I will say that in gastroptosis, chronic intestinal toxemia is present in more than 50 per cent. of all cases. If, in that 50 per cent. of cases, you permit the toxemia to continue, the largest proportion of the cases will eventually revert to former conditions, no matter what you have done for the patient in the way of rest, abdominal support, physical measures, diet, etc. I think that neglect of intestinal toxemia is the reason why so many of these patients return after a conscientious effort to overcome the ptosis had been made. Another thing: I do not believe that it is possible to feel that a case of ptosis is what may be called cured until the stomach is in normal position; and our experience is that we succeed in restoring the stomach to its normal position only when we can keep the patient under observation for at least six months and the elimination of the intestinal toxemia, if present, is accomplished. There must be continuation of effort on the part of that person when he is up and around. I believe that the test of a cure in these people is what may be termed a riding stomach. After the increase of fat and of intra-abdominal pressure, the building up of the patient and all that sort of thing, you can never be sure that a ptosis patient is permanently well until, without any abdominal support, the stomach is higher in the standing position than in the prone. That sounds ridiculous, but it is true: when, after treatment of a case of gastroptosis, the stomach is higher in the standing position than in the prone, you can depend on it that the patient will remain well.

Fig. 8.—Flexion of thighs, bringing knees up to chest.

DR. LEON T. LEWALD, New York: The question has been raised as to congenital and acquired gastroptosis. I have made a great many observations on infants and children. Some of this work was done with the late Dr. Pisek, and, more recently, with Dr. Kerley. Surprisingly few observations on young children have been recorded, and many of the conditions which we think of as occurring only in adults we do see in children; and, in a considerable number of cases, we have observed gastroptosis in early childhood. We believe that some of those cases are definitely acquired from overfeeding, particularly in those children subsisting largely on milk, having extra meals of milk at school in addition to their ordinary meals. The proof of this is still somewhat vague, but there is no question as to the number of cases we have seen of gastroptosis in young children. While a

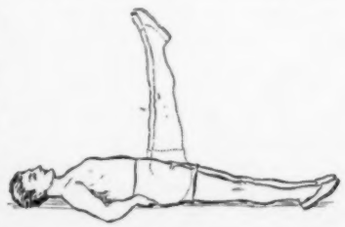


Fig. 9.—With the knees extended, the legs are raised to the vertical position.

4. The replies to this questionnaire will be published in another article entitled "The Irrational and Unjustifiable Operation of Gastropexy."

large number of adult cases of gastroptosis yield fairly readily to changes in the mode of living, proper diet, and the wearing of a support, I know of several instances in which surgical relief was the only solution of the problem. One point was not brought out by Dr. Harris: not only the degree of ptosis, but also the functioning of the ptosed organ is not always taken into account. A small group of cases can be relieved only by operative procedure.

DR. JOHN L. JELKS, Memphis: I want to ask Dr. Harris if he has found a psychic element to contend with in these cases. Is it not, in his opinion, a misfortune, for a woman especially, or any patient who is already neurotic, to learn that a condition of visceroptosis exists? Also, if he does not believe that in some cases the patient needs psychotherapy as much as other treatment? Many of these patients are married women who have borne children; others have had tumors removed; some have gone through a long period of illness in which a great deal of fat has been lost, not only intra-abdominally, but the extraperitoneal fat cushions have been destroyed or markedly reduced. Also the modern dress, which prevents continued development of the abdominal parietes, undoubtedly has had a great deal to do with many of the cases I have encountered; and I see a good many of them in connection with toxic and abdominal cases. I should like to know also whether, in the majority of cases wherein one notices an indicanuria and other indications of toxicity, Dr. Harris does not also note adhesions.

DR. CHARLES D. AARON, Detroit: Twenty-five years ago I presented a bandage for the treatment of gastro-enteroptosis. I have been using that bandage up to the present time without making a single change in it. The results are marvelous. Symptomatic treatment as laid down by Dr. Harris, plus the fitting of a bandage, will bring about a clinical recovery. Whether or not the stomach or intestine is back in position, I do not know. We may not be able to restore anatomic arrangement, but we can restore the physiologic condition. I am led to believe, and I think all of you will agree with me, that if you put a suitable bandage on the patient, this, by lifting the abdomen, will relieve the tension on the mesentery. It is the tugging on the delicate nerves in the mesentery that induces neurasthenia and nervous symptoms, not the toxemia. The relief of that tension does away with the symptoms. If you send the patient to the instrument maker, you send her to a concern whose business it is to sell a bandage. It is your duty to fit that bandage yourself; and if you fit it today, in a week from now it will not fit, because the abdomen has been held up, the mesentery has contracted, and there is still tension. Patients who, when they first came into my office, could not walk have been able to walk after wearing one of these bandages for a short time. If you fit it properly, it will do the work. This bandage and every bandage fitted for the relief of gastro-enteroptosis should extend just from the symphysis to the umbilicus and not higher, and pressure should be firmly exerted on the small intestine. If you make a pad for the small intestine, you will raise the transverse colon easily, and that will raise the stomach.

DR. G. R. SATTERLEE, New York: I agree with Dr. Harris in the main. I agree with him also as to the familial tendency toward enteroptosis. I have had quite a little experience with this condition, starting in some surgical work and finally coming to the conclusion that we were not, strictly speaking, doing surgery, but suspension. For four or five patients who were going down hill very rapidly, surgical suspension seemed to be the only thing to start them on the right road. One interesting familial case was that of a mother and daughter. The mother went down hill very rapidly with gastro-enteroptosis. She had a suspension operation on the stomach. Her daughter had a similar condition, with homologous roentgenograms which could scarcely be distinguished from each other. The daughter was treated by posture and abdominal support; both are well today. Dr. Harris did not say very much about the effect of posture. In our work, we now believe that posture is a very important factor in the treatment of gastro-intestinal invalidism. I hardly believe that we can get along without corset support in a great many of these cases. The corset support is important, not from the uplift of the intestine entirely, but largely from the effect on the spine. Corsets are all made so that they have a stiffening effect on the spine. Then the patients are taught to sit properly and not bend over and force the abdominal contents down. That is very important, and should be attended to early and often in children. It hardly seems possible that enteroptosis does not cause symptoms in quite a percentage of cases, but, just as Dr. Harris has said, the condition may be present without any symptoms being manifested. Thorough treatment of these patients and treating them from every angle is, of course, necessary. A great deal of nerve tire and disability is caused by another factor which has not been touched on, and that is focal infection. Posture must have some effect on these patients because we have had quite a large number with enteroptosis who have been in a badly run-down condition, and yet were completely relieved by a properly fitting corset or even by posture alone. It is not infrequent to find a gain of 30 pounds after postural treatment. The fitting of this corset must be done under the supervision of the physician. It must be made exactly right, with spring pads, the essential thing being to get the viscera in the proper position before the corset is applied and to avoid postures which may dislocate them.

DR. SEALE HARRIS, Birmingham, Ala.: Regarding the question of abdominal support, the properly fitted abdominal supporter is very helpful. But the visceroptotic person should not be condemned to wearing an abdominal support all his life. The idea should be to use an abdominal supporter as a temporary measure until the patient can, through proper exercises, get an increasing abdominal pressure and also some fat to help raise the stomach and to increase the intra-abdominal pressure. As to visceroptosis not being hereditary because it has not been found in the fetus, the fetus has not assumed the upright position. If men were to go on all fours, there probably would not be any gastroptosis. When they assume the standing position, with the stomach distended, descent of the stomach takes place. Therefore, I think the condition is hereditary. Dr. Bryant's view that the condition is a fatigue syndrome is very important, for fatigue is practically always present in those cases. In instructing my patients in regard to rest, I also try to give them some physical exercises and deep-breathing exercises and also exercises to develop the abdominal muscles. I instruct stenographers and other office workers to take five or six deep breaths and draw in the abdominal muscles at an open window every hour each day. It gives rest and also helps posture. It is very necessary to have these patients assume the proper posture with the shoulders thrown back and the abdomen pulled in, and after a time they will assume that position naturally. This increases the intra-abdominal pressure and helps very much. As to the position of the stomach one year after treatment, we have not enough data of value in the way of statistics; but in the majority of patients with visceroptosis whose symptoms have been relieved we find the stomach still low down in the abdomen. I do not think the position of the stomach has anything to do with the symptom. It is a question of tonus and intra-abdominal pressure. However, in a few of the cases the roentgen ray shows that the stomach has ascended 2 or 3 inches. But the psychic element is very important, and we should impress on the patient the fact that it does not make any difference if the stomach is low. Dr. LeWald's remarks about the condition in infants and children is very interesting. Dr. Ochsner has suggested that the distention of the stomach and intestines in infancy causes visceroptosis. I think that gastro-intestinal diseases in infancy cause atony but not visceroptosis. I do not believe that any operation for fixing the stomach or the colon or any other highly mobile viscus of the abdomen is going to do anything but injure, because it interferes with function, and furthermore, if you study the case with the roentgen ray after the operation of gastropexy you will find the stomach still low. Dr. Aaron spoke of the desirability of the physician himself fitting the abdominal supporter. The important thing is to have a type of supporter which will fit tightly over the lower part of the abdomen and loosely higher up.

Clinical Notes, Suggestions, and New Instruments

AN EMERGENCY UNIVERSAL SPLINT FOR FRACTURED LONG BONES

H. C. MASLAND, M.D., PHILADELPHIA

In former publications,[1] I have described a series of splints for the absolute reduction and fixation of acute fractures in the continuity of the major long bones. These splints are the implements of the surgeon.

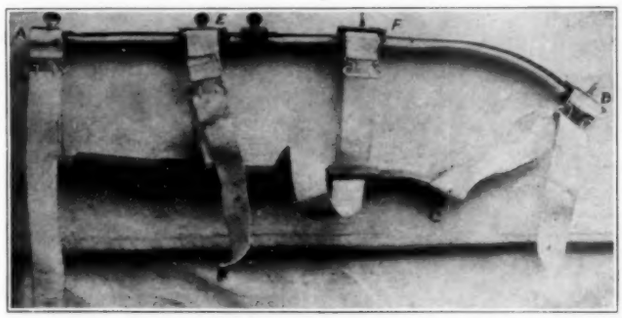


Fig. 1.—Ends bent for thigh or arm fracture. Similar letters indicate similar parts in the two illustrations.

The splints illustrated in Figure 1 and 2 are not in any way to be considered as substitutes for those previously described, nor are they for the permanent treatment of fractures. They are for use in the factory, mine, patrol wagon, etc. They are for emergency use to give comfort during the delay that occurs while the patient is being transported to the hospital or other place where he receives corrective treatment.

FEATURES OF SPLINTS

The one splint set is adjustable so that fixation of a fracture of any of the major long bones may be secured. The metal strips are bendable to conform to the shoulder or buttock, yet of ample strength for rigidity. For application to the shoulder and buttock, the external splint may be made

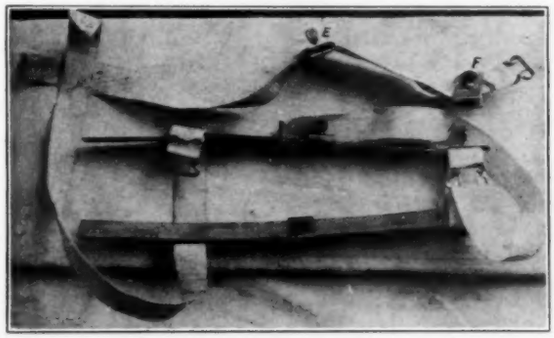


Fig. 2.—Straight shortened splint for leg or forearm. *A, B, C, D,* end strap brackets; *E, F,* strap clamp brackets attachable where indicated.

longer than the internal, thus giving added support to the head of the bone, as in the regulation Thomas splint. Side slipping of the splint arms is prevented by clamping the straps, after tightening, in the brackets. There are straps in the end brackets and additional straps that may be applied around the limb and clamped to the splint arms when and where needed. The splint may be applied over the clothing, or when this is not feasible, padding of any convenient material may be applied under the main pressure points. The splint may be carried compactly in a first aid outfit.

2130 North Nineteenth Street.

1. Masland, H. C.: Pennsylvania State M. J. **25**: 161 (Dec.) 1921; Ann. Surg. **76**: 110 (July) 1922.

FRACTURED CLAVICLES

T. K. RICHARDS, M.D., BOSTON

The method here advocated is a slightly modified clavicular cross, or T splint. The cross as commonly applied is made of ordinary splint wood with two widths of board forming the upper bar of the T across the shoulders, with the long arm of the T extending to the lower thoracic vertebrae, the whole splint being carefully padded and held in place by sheet wadding and bandages or webbing straps binding each shoulder tightly to the outer end of the double boards. The lower end of the T is held to the back in a similar manner.

The changes are the result of treating fifty fractured clavicles, and are that:

1. The width of the cross bar of the T is of a width corresponding to the width of the shoulder at the axilla (that is, the distance from the superior aspect of the shoulder to the lower edge of the posterior axillary fold) and of a length about 2 inches shorter than the width across the shoulders because the points to be fixed are the shoulders. They must be held back and up. By having the cross piece the width of the shoulders at the axilla, it is impossible to move the shoulders within the apparatus. This is not the case when a wide cross piece is used.

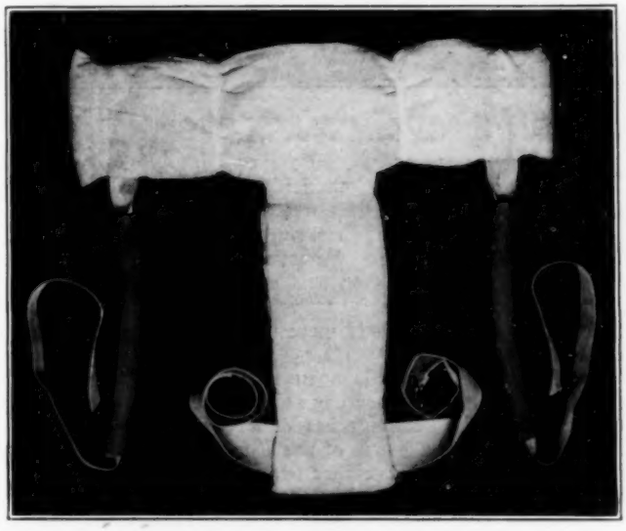


Fig. 1.—Anterior view of clavicular cross, or T splint.

2. There is no padding over the shoulders where the straps or bandages hold the shoulders to the cross bar; instead, webbing straps from 1 to 2 inches wide (according to the patient, adult or child) are used, over which have been slipped pieces of heavy rubber tubing from one-half to three-fourths inch in diameter and about 8 inches in length. These are to be adjusted so as to take the pressure of the straps off the anterior axillary folds and the anterior superior aspect of the shoulders. The advantages are that it does away with padding, which soon becomes foul with perspiration; the skin is easily cleaned and powdered without removal of the apparatus; it does not chafe, and these straps can be put on more firmly and with less disability than when padding is used.

3. The straps and buckles encircling the shoulders are tacked to the lower border of the cross bar, the buckle end up, and at a point at least an inch toward the median line from the point adjacent to the posterior axillary fold. This makes the back pull on a slight diagonal and helps to keep the straps in place. The strap which acts as a belt is also tacked to the long arm of the T (Fig. 1).

ADVANTAGES

The whole apparatus is in one piece, and can be applied by one pair of hands. When it has once been fitted, the rubber tubing containing the strap holds the shoulder at a

point inside the head of the humerus, which aids in keeping the apparatus in place. The buckles, being low, do not interfere with the roentgen ray. In some persons in whom, because of marked fulness over the caracoid process, it is difficult to keep straps inside the head of the humerus, another strap running across the chest between the arm pieces may be necessary to prevent the arm strap slipping over the point of the shoulder. In most cases this is not necessary.

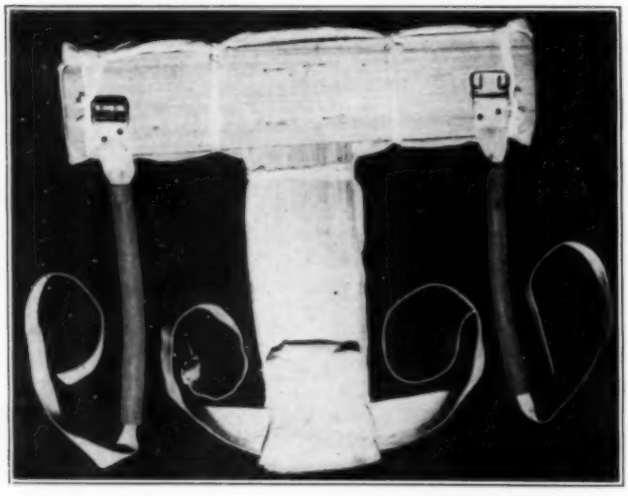


Fig. 2.—Posterior view. Rubber tubing covers the arm straps; the buckles are at the lower border of the splint.

The advantages of the clavicular cross or T splint over the Sayre and Velpeau dressing are:

1. There is full use of the arm at all times.
2. There is no danger of nerve or circulatory injury, of which two cases were seen this summer when a Sayre and Velpeau were used.
3. The shoulders are held more nearly level, and the broken ends are immobilized.
4. The site of injury is open for inspection at all times, and foul smelling pads are done away with.

The advantage of the cross over the army barrel stave splint is that the long arm of the T prevents the dropping of one shoulder. The advantages over the method of sand bags and rest flat in bed are that the patient is up and around, while the end-results are practically the same.

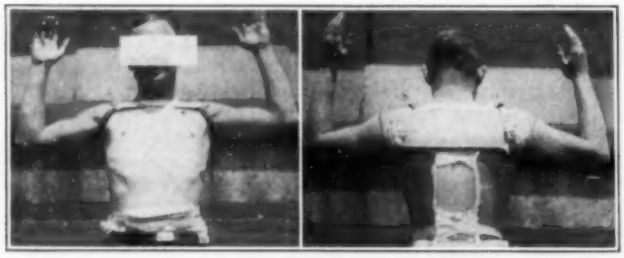


Fig. 3.—Lack of deformity and disability twenty-one days after injury. The front view shows the diagonal backward pull of the arm straps within rubber tubing; it also shows the strap between the two arm pieces across the chest, which prevents the arm pieces from slipping over the shoulders. The apparatus is shown just as the patient wore it.

In a series of fifty cases treated with the apparatus, only one patient was encountered who complained of the cross being uncomfortable. This was a midshaft oblique fracture plus multiple contusions and abrasions of the legs and trunk. The patient was treated by rest in bed for ten days followed by a figure-of-eight flannel bandage between the shoulders across the back, and a sling. The end-result was excellent.

In all the others there were no complaints after the apparatus was finally adjusted. The patients who had been treated first with a Sayre and Velpeau all complained of their arms, the elbow, especially, being uncomfortable; and they were most grateful for the comfort and freedom allowed by the cross. No slings were used at all; the pull from the arm on the outer fragment is taken by the shoulder straps.

In most cases, union was firm in three weeks, at which time the cross was removed. In greenstick fractures in children, two weeks after reduction was usually sufficient. In rare cases in which there was any doubt about solid union in three weeks, the cross was removed and a figure-of-eight bandage between the shoulders applied until union was firm.

CONCLUSIONS

1. A T splint, of which the width of the cross bar is the width of the shoulders at the anterior axillary line and the length of which is a little shorter than the width between the shoulders, padded with sheet wadding and held in place by webbing straps covered with rubber tubing, holds the fragments of fractured clavicles in position.
2. It enables the patient to be up and about with nearly full use of his arm.
3. It does away with any danger of injury to nerves and blood vessels from tight bandaging.
4. It is comfortable, easy to keep clean, and prevents the chafing of the skin.
5. When the apparatus is removed, the function of the shoulder as well as the other joints of the arm is present, and the minimum time is lost before the patient can resume his daily work.
6. The cosmetic results are excellent.

520 Commonwealth Avenue.

IMMOBILIZATION OF THE UPPER THORAX

HUGO O. ALTNOW, M.D., MANDAN, N. D.

The practitioner usually does not attempt to immobilize the upper chest, by adhesive tape, in pleuritic inflammation or injury, because he believes that it cannot be effectively accomplished. I entertained this idea for some time.

A few years ago, while reading C. F. Hoover's article in "Oxford Medicine" on "The Respiratory Excursion of the Thorax," I hit upon the simple and effective method here described. The physiologic principle involved is taken from the article mentioned: "The mechanism for the ventilation of the anterior or upper lobes is provided for by the scaleni and the intercostal muscles. The scaleni anchor the first rib, and the intercostals, each in turn, elevate the rib below. This elevating movement occurs from the first to the fourth rib, inclusive, and provides for the ventilation of the upper lobes. In the ribs below, the inspiratory elevation is greatly accentuated by the lateral 'bucket handle' movement of the ribs from the fifth to the tenth, inclusive. The latter movement, to a large extent, accomplishes the ventilation of the lower lobes."

Application of adhesive tape in immobilization of upper thorax.

From this description, it occurred to me that immobilization of the upper chest could be accomplished by preventing the upward movement of the first to fourth ribs, inclusive, by fixation of the bandage below the fourth rib anteriorly and posteriorly. The adhesive tape is started in front as low down as the sixth rib, and is brought up over the shoulder.

As the patient holds the chest in full expiration, the posterior application of the strap is completed with as much downward pressure as possible. Two straps applied in this manner are usually sufficient. A horizontal strap helps in anchoring the ends of the two main straps. The accompanying photograph further illustrates the manner of application.

Clinical experience with several cases of upper lobe pleurisy, in which this method of fixation of the chest was tried, has proved its effectiveness. The patient experienced almost immediate relief in each instance in which this method of treatment was employed.

THERAPEUTIC APPLICATION

The method is applicable in:

1. Upper lobe and apical pleurisy occurring in the course of tuberculosis, pneumonia and those due to other infections, when relief from distress is necessary.
2. Fracture of the four upper ribs or other injury of the upper thorax, when immobilization of the chest is desirable.
3. Apical tuberculosis, to augment Nature's attempt at fixation of the affected apex.

HEMOPERITONEUM WITH BLUISH DISCOLORED UMBILICUS: REPORT OF CASE

H. MELMUTH STERNBERG, M.D., JERSEY CITY, N. J.

History.—S. F., man, aged 61, a German saloonkeeper, was admitted to the hospital, Sept. 5, 1922, with the complaint of "enlarged abdomen." The family history was essentially unimportant. He denied all acute infectious diseases and venereal disease. He was the father of one grown son; his wife denied any miscarriages. Twenty-five years before, he suffered with nonbleeding hemorrhoids, which spontaneously disappeared. Seven years before, he was troubled with varicosities and edema of the lower extremities. He admitted that he indulged heavily in beer, wine, tobacco and coffee. He also enjoyed a voracious appetite, which he satisfied freely.

Prior to three months before his entrance into the hospital, he had no complaints. He noticed that his appetite became poor and he was constipated. He complained of pyrosis, belching of gas, fulness after eating, borborygmus and loss of weight and strength. Six weeks before, his abdomen became distended. For this, he was twice successfully treated with drugs. A third reappearance failed to subside under free catharsis. The abdomen became so enlarged that respiration was interfered with. September 2, the patient noticed a small amount of "black blood" in the stool. At no time was there any hematemesis or jaundice. September 3, abdominal puncture by Dr. Kopetchny yielded a dark, sanguineous fluid under pressure. The patient entered the hospital two days later.

Physical Examination.—The man was heavy set, weiging 210 pounds (95.4 kg.), and of muddy complexion, with the typical hepatic facies. The temperature was 98 F.; pulse, 100; respiration, 24; blood pressure, 120 systolic, 90 diastolic. There were no signs of hemorrhage or shock. The abdomen was symmetrically enlarged. There was shifting dulness in the flanks. A fluid wave was demonstrable. The umbilicus was prominent. Below it and surrounding it, in a half-moon, there was evident a bluish black area, on a level with the rest of the skin, and containing yellow and green spots. Superficial veins of the abdomen were sparse. The liver and spleen were not palpable. Hemorrhoids were present. Both extremities showed varicosities and pigmented skin.

Laboratory Findings.—Examination of the urine revealed: specific gravity, 1.026; very slight trace of albumin; occasional granular casts; negative as to bile and sugar.

Blood tests revealed: red blood cells, 2,880,000; poikilocytosis and anisocytosis; hemoglobin, 58 (Tallqvist); blood clotting time, two minutes; white blood cells, 9,400; polymorphonuclears, 74 per cent.; lymphocytes, 26 per cent.

The fluid aspirated from the abdomen was bloody, with a specific gravity of 1.02. One third of the volume was composed of cells. Cultures and smears were negative. It was negative for bile and special cells. A smear showed blood cells, all types (normal).

September 8, the abdomen was again punctured by Dr. Hamill, and 7,000 c.c. of serosanguinous fluid was removed. September 9, the patient died.

Necropsy Findings.—The patient had entered the hospital with a diagnosis of atrophic cirrhosis. Because of the hematoperitoneum, malignancy of the abdomen was suspected. A partial necropsy revealed a small cirrhotic liver, with a right lobe joined to the right leaf of the diaphragm by a large, soft, fungating cauliflower mass, which was ulcerated in parts and oozed blood from its center. Microscopically, this was shown to be an adenocarcinoma of the liver. No other focus was demonstrable.

COMMENT

In 1919, Dr. Thomas S. Cullen observed and described the presence of a bluish black discolored umbilicus in a few cases of tubal pregnancy, in which the abdomen contained an abundant quantity of free blood. Dr. Emil Novak[1] has recorded two cases of tubal abortion with this sign. The discoloration is ascribed by Dr. Cullen to the imbibition of blood by the umbilicus from the peritoneum. This subject has received further consideration by Dr. Cullen.[2] He believes that this sign may be of great value in cases in which the bleeding has been slow but persistent, and the clinical symptoms are not very evident. The interest in this case lies in the presence of a bluish discolored umbilicus in a man with hemoperitoneum due to adenocarcinoma of the liver.

St. Francis Hospital.

A CASE OF KNOTTED AND IMPACTED URETHRAL CATHETER

M. J. FOX, M.D., AND J. C. SARGENT, M.D., MILWAUKEE

D. S., a white man, aged 22, entered Milwaukee County Hospital complaining of an impaction of a self-inserted, soft rubber urethral catheter. The family history was unimportant. The patient denied any venereal disease or unusual sexual practices. He stated that on one occasion, one year before, for no apparent reason, he found himself unable to void, and was relieved by catheterization by a physician. There had been no subsequent trouble until the present illness. Aug. 23, 1922, without apparent cause, he was again unable to void, and after a continence of twelve hours, the discomfort of a distended bladder impelled him to insert a rubber tubing and empty the bladder. He could not withdraw the rubber tube. It seemed solidly fixed, and the slightest traction resulted in agonizing pain in the region of the bladder neck. Becoming alarmed, he consulted a physician, who made several attempts to withdraw the tube, but, because of the excruciating pain, was unsuccessful. Following this, some blood appeared at the meatus, and in several hours, swelling and edema of the penis occurred. A dribbling of urine around the catheter soon developed and continued. On the second day after this accident, the patient presented himself at the Milwaukee County Hospital. He complained only of the impacted catheter. Urine was dribbling constantly around the tube. He seemed comfortable.

The general physical examination was entirely negative. A soft rubber tube, about the size and consistency of a No. 20 soft rubber catheter, protruded 3 inches from the meatus. Urine dribbled slowly around the tube. The penis was moderately swollen and edematous. The scrotum and contents were normal. The prostate was swollen and excruciatingly tender. The rubber tube was solidly fixed within the urethra, and the slightest traction resulted in severe pain. The systolic blood pressure was 120; diastolic, 75; temperature, 100; pulse, 84; respiration, 20.

The patient was anesthetized with chloroform for a moment, during which the rubber tube was withdrawn. It was so tightly fixed that, before it gave way, it seemed that the

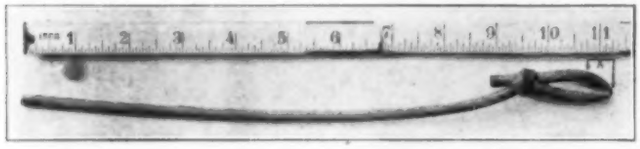
1. Novak, Emil: Bluish Discoloration of the Umbilicus in Diagnosis of Ruptured Extra-Uterine Pregnancy, J. A. M. A. **78**: 643 (March 4) 1922.
2. Cullen, T. S.: Surg., Gynec. & Obst. **35**: 257 (Sept.) 1922.

rubber would break. Considerable bleeding followed for several minutes, but recovery was uneventful, and the patient left the hospital four days later, apparently in perfect health.

The ready passage of a No. 30 sound proved the urethra entirely free from stricture. The prostate by rectum was of normal size.

COMMENT

This case was deemed peculiarly interesting because it was the result of a remarkably odd and unusual accident. By the illustration, it can be seen that the rubber tube, curling within the bladder, tied itself in a perfect slip knot, and in such a manner that traction served only the purpose of tightening the knot. The loop of the catheter, *A*, showed a definite deposit of urinary salts on its surface. Apparently



Appearance of catheter when withdrawn: *A*, loop with deposit of urinary salts.

on the day of the accident, the actual knot was withdrawn into the prostatic urethra, only the tip of the loop remaining within the bladder.

Just why the patient introduced the rubber could not be ascertained. Certainly the retention was not due to any obstruction. If there actually was retention, it must have been hysterical. It is of course possible that the introduction of the tube was prompted by a perverted sexual sense.

Milwaukee County Hospital—Wells Building.

A NEW IRRIGATOR PROVIDING REGULATED FLOW AND TEMPERATURE OF CONTENTS

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Every physician has felt the need of some improvement in the methods in general use, and in the apparatus employed for irrigation, so that the rate of flow shall be controlled with exactness and the fluid contents of the can be kept at a constant temperature. Such a need is filled by the irrigating apparatus herein described, which has given entire satisfaction in actual practice.

The apparatus consists of a reservoir built on the vacuum principle, so that it retains for periods of time the heat of the liquid contents. The outflow is regulated by a dial which is numbered from 10 to 80 and fitted with a handle and an arrow, so that when a continuous irrigation is ordered, the nurse or other attendant, by grasping the handle, moves the arrow to the number on the dial corresponding to the number of drops a minute ordered by the physician, and feels free to go about her other work, knowing that no more nor less than the desired number of drops a minute can reach the patient.

Tap water, sodium chlorid or sodium bicarbonate solution will flow at the rate indicated. Glucose, 5 per cent. solution, because of its higher specific gravity, will flow slightly more slowly. However, it is obvious that this may be easily regulated.

The points of advantage of the apparatus are these:

1. It will retain the temperature of the fluid contents at any given point for a period long enough to make it possible for the contents to be emptied, even at a very slow rate.

2. The intake is large enough so that the can may be cleaned and filled easily.

3. There is built in a device, consisting of a false bottom fitted with a valve to regulate the head pressure of the solution, so that the outflow remains the same regardless of the amount of fluid in the container. The rate of flow is no greater when the container is filled to capacity with 1½ quarts (liters) than when only an ounce or two remains.

4. A most important difference is the regulating device, which consists of a series of vents drilled to varying diameters in a movable dial. When it is desired to allow 60 drops a minute to flow to the patient, the arrow on the face of the dial is moved, thereby moving the vent drilled to allow for that number each minute on the inner surface of the dial, so that it comes into direct line with the flow from the container to the ouflow nipple, and at once prevents the passage of any greater or less number of drops a minute. The advantage of this accurately controlled flow is obvious, particularly when it is desired to introduce a given amount of fluid in a certain time. When the dial is set and the container filled, no other attention is required by the attendant. Because of the measured flow, the time when the can will be empty may be foretold to the minute, thus economizing the nurse's time and making watching unnecessary. There is also provided a separate outlet for a large caliber continuous flow, should this be desired. Because of this feature, the instrument can be used for either douche or enema.

5. The entire apparatus is constructed of nickeled brass, which makes it resistant to the corrosive action of salt water. Because it may be boiled, it may be used for the irrigation of infected wounds, or for other purposes when sterility of container and fluid must be maintained.

Because of the possibility of slow rate of flow, it is particularly useful in the irrigation of wounds when prolonged contact with the fluid used is desirable, without constant refilling of the container.

6. There is no need of pinching, compressing or otherwise maiming the rubber tubing in an effort to regulate the rate of flow. This, of course, will greatly prolong the life of the tubing.

New irrigating apparatus.

The construction of the apparatus is presented in the accompanying illustration. It has proved thoroughly satisfactory in practice, and has been a means of economizing greatly the time of the nurse in a ward where several of these containers have been in use at the same time. The time of refilling may be accurately foretold, and it gives the surgeon a feeling of confidence to know that the shocked patient for whom he has ordered a regulated drip will not receive a low enema instead, through the slipping of a clamp or other regulating device. This defeats the entire plan of treatment, and necessitates changing the damp, soiled bed.

The container is provided with a removable handle by which it may be suspended conveniently at any given height, although the elevation does not affect in any way the rate of flow. This is controlled absolutely by the vents in the dial and by the device to reduce head pressure to a constant level. Should it be desired to provide a visible flow and verify the number of drops discharged, it can easily be done by inserting, in the rubber line, a glass bulb with visible drip. The apparatus may be depended on, however, to function properly. The device has proved its value in actual use. It is our hope that this apparatus will solve for others, as it has for us, problems of irrigation. It has been so helpful to us that we would not willingly be without it.

1823 Pine Street.

Place of Hospital in Community.—Each hospital as an institution should be accepted by its own particular public much the same as its schools, churches, financial centers, etc. If hospitals are ever to reach the heights of efficiency they must be relieved of the stigma of being classed as charitable institutions, and signs are already appearing to lead us to hope that in this respect changes for the better are coming about.—N. E. Edmus and M. LeJeune, *Hospital Social Service* **3**:350 (May) 1921.

Special Articles

REPORT OF THE COMMITTEE ON LYE LEGISLATION

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY, AMERICAN MEDICAL ASSOCIATION

Your Committee on Lye Legislation begs leave to report progress. The work has been largely in way of a survey of the situation on which to plan a campaign for the public welfare. The situation may be briefly summed up under the following heads:

1. The public, even the medical public, does not realize that caustic alkaline preparations are used in the household from packages insufficiently labeled.

2. The packers of cleansers (mistakenly) claim their diluted preparations to be harmless, and refuse to put any warning on their packages.

3. The lye packers oppose legislation because it would hurt sales.

4. Moral suasion is useless, partly because the lye packers believe an unfair advantage would be given diluted preparations.

5. Moral suasion exerted on the packer is and always will be a failure, unless some one can show the packer how corporate dividends can be increased by a "scare" label such as the druggist is compelled to use on poisons. Legislation would be fairly and equally applicable to all, whereas the philanthropic packer, if any could be found, would suffer if he adopted a label that would make his preparation seem more dangerous than others.

6. The need for special legislation hinges partly on the definition of "poison" in the laws at present in force. In the Pennsylvania statute, a poison is defined as any substance that will cause death when used in quantities of 60 grains or less. Your committee here presents 60 grains for the judgment of the section as to the lethal effects of such a quantity. The poison statutes in most states, however, consider only deaths. They take no account of a life of misery that can follow a cicatricial stenosis of the esophagus, nor of the indirect deaths by nephritic, bronchial and other complications. Philip B. Hawk, professor of chemistry in Jefferson Medical College, furnished the following statement:

> Holland gives the ordinary fatal quantity of sodium or potassium hydroxid as one-half ounce (15.5 gm.), but states that 30 grains (2 gm.) may prove sufficient. This is probably as accurate a general statement as can be made. The fatal dose depends on many circumstances, such as age of the person, amount of food in the stomach, and promptitude of treatment. This is especially true of alkali, whose chief action is not systemic but corrosive, and hence much influenced by dilution with water or gastric contents. All corrosives are especially dangerous to the eyes, and small amounts entering the respiratory passages may be fatal.

In the opinion of your committee, special legislation is needed.

7. The opposition, direct and by lobby, to lye legislation uses the argument that lye accidents are rare. To obtain data on this subject, your committee sent out inquiries to 1,448 esophagoscopists and surgeons and obtained from them reports of 490 cases. When it is considered that these questionnaries reached not more than 1 per cent. of the medical profession, the results are appalling, in showing how frequently this awful calamity befalls little children. Apart from this, infrequency is a poor argument. Prussic acid is a very rare cause of accidental death (much less frequent than lye, by the way), but the infrequency does not release the druggist from putting a "scare" label on it.

8. The editor of THE JOURNAL, in a personal letter to the chairman, made a comment to the effect that "publicity is needed." This seems to your committee the keynote of the situation. Legislatures will follow the people, not lead them. If the public can be informed of the danger, a demand for legislation will follow. The public press is afraid to give publicity on this subject. At least one medical publication refused to publish, in connection with a case report, a reproduction of the label of a lye preparation that had caused death. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION published the label along with a report of the case. The committee urges that every member of the American Medical Association report every case of lye burn, giving the name of the preparation causing the accident, with a note as to how much, if any, warning was given on the label. It is requested that a clipping of such publication be sent to your committee and that an opportunity be afforded the committee to obtain a stock of reprints for distribution.

9. The last outstanding feature of your committee's investigation is the confirmation of a statement made by a chairman of this section eleven years ago, to the effect that the public does not know lye preparations are poisons because such preparations are inadequately labeled.

Your committee acknowledges with thanks the courteous and efficient cooperation of Dr. Edward Martin, commissioner of health, state of Pennsylvania, and the kindly help of Dr. George H. Simmons, editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

On the foregoing survey, plans are being laid for a campaign, in the effort to prevent needless suffering on the part of little children. The support and suggestions of members are solicited.

Respectfully submitted.

CHEVALIER JACKSON, Chairman,
FIELDING O. LEWIS,
GEORGE W. MACKENZIE.

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

MAJORITY REPORT OF THE COMMITTEE ON ESTIMATING COMPENSATION FOR EYE INJURIES

SECTION ON OPHTHALMOLOGY, AMERICAN MEDICAL ASSOCIATION

SECTION 1.—The report of the committee deals only with the computation of compensation for loss in visual efficiency, the result of eye injuries.

SECTION 2.—Compensation shall be computed upon the degree of loss in efficiency to those essential factors of vision capable of being measured: i. e., Factor A, central visual acuity for distance or for near; Factor B, peripheric vision, or visual field; Factor C, binocular single vision.[1]

SECTION 3.—The total *economic* loss of the essential factors of vision of *both eyes* shall be considered as *total permanent disability.*[2]

SECTION 4.—The total *economic* loss *in one eye* of Factor A, Factor B and Factor C shall be reckoned as 100 per cent. loss, entitling the injured to the full compensation awarded for industrial blindness or total permanent disability for *one eye.*

The loss of Factor C with *irremediable diplopia* (Factors A and B remaining intact) shall be reckoned as 50 per cent. loss, entitling the injured to 50 per cent. of the award for total permanent disability for *one eye.*[3]

SECTION 5.—The compensation value for the loss to the *essential factors* of vision of *one eye* shall be:

Factor A: Industrial loss of central visual acuity for distance or for near,[4] 50 per cent. compensation.

Factor B: Industrial loss of field of vision, 25 per cent. compensation.

Factor C: Industrial loss of binocular single vision, 25 per cent. compensation.

1. The former are essential functions of each eye separately and individually; the latter is an important function of perfect vision requiring both eyes. Depth perception is recognized as an important faculty of binocular single vision, but is included under Factor C for the reason that, for all practical purposes, it exists as long as the visual acuity of either eye is not reduced below industrial (economic) blindness, or there is no loss of binocular single vision.

2. Section 3 is modified by Sections 8, 9 and 10.

3. Section 4 is modified by Sections 8, 9, 10 and 11.

4. Compensation shall be computed upon the loss in visual acuity for distance in those occupations in which the working distance is greater than an arm's length. Compensation shall be computed upon the loss in visual acuity for near in those occupations in which the working distance is at arm's length or less.

Compensation in per cent. for partial loss to Factor A will be found in Tables 1 and 2; for Factor B, in Table 3; for Factor C, in Table 4.

Section 6.—Following injuries involving both eyes, compensation shall be computed on a basis of loss to Factor A and Factor B for each eye separately, according to Section 5.

The total compensation shall be the sum of that computed for loss to each eye alone, additional compensation of 25 per cent to be awarded in cases of loss of Factor C.

If the compensation for each eye is greater than 70 per cent., the foregoing rule shall be modified, and additional compensation shall be awarded; such compensation shall be increased in proportion to the increased seriousness of the visual loss, reaching as a maximum that awarded for total general disability or total industrial incapacity.

Section 7.—In case of an injury to an eye in which the vision has been defective prior to such injury, compensation shall be awarded only for such portion of the disability as may be reasonably attributed to the accident. In case there exists no record of visual acuity before injury, then it shall be assumed that there was in each eye visual acuity of 20/20.

Section 8.—The foregoing computations for compensation for eye injuries do not take into account any cosmetic defect which may result: for this additional compensation shall be awarded.

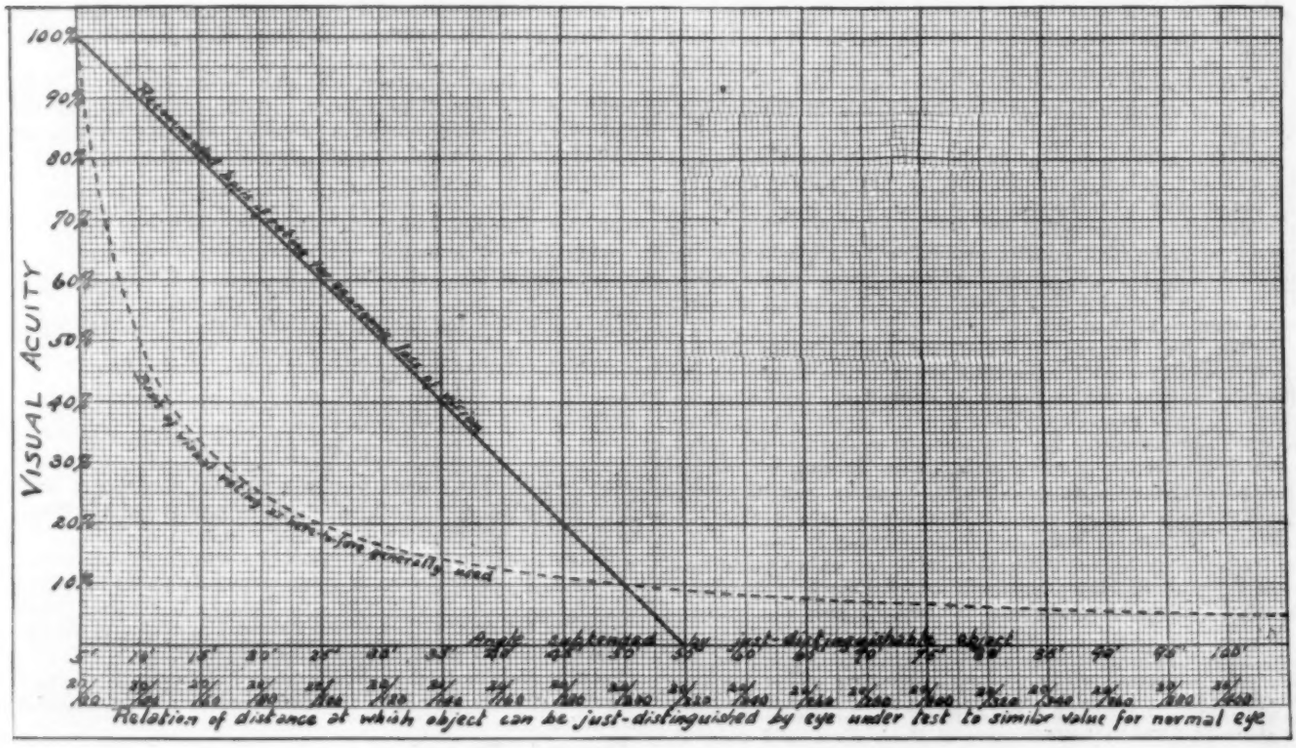
Section 9.—Certain types of ocular injuries may result in disabilities, the value of which cannot be computed by any established precedent. Such are disturbances of color vision, disturbances in adaptation to light or dark, metamorphopsia, entropion, ectropion, lagophthalmos and epiphora. In such cases, additional compensation shall be awarded.

Section 10.—Compensation shall not be computed until all adequate and reasonable operations and treatments known to medical science have been attempted to correct the defect; further, at least three months shall elapse after the last visible trace of inflammation has disappeared before the examination, on which final compensation is to be computed, shall be made, except in cases of paralysis of extrinsic ocular muscles, optic nerve atrophy, sympathetic ophthalmia, and traumatic cataract. In such cases at least twelve months and not more than sixteen months shall intervene before the examination shall be made on which final compensation is to be computed.

Section 11.—The best possible visual acuity for distance or for near (with correcting glasses if necessary) shall be used in the computation of compensation. If there exists a difference of more than 4 diopters of spherical correction between the two eyes, the best possible acuity of the injured eye without glasses, or with lenses of not more than 4 diopters spherical difference from the fellow eye, shall be the visual acuity on which compensation shall be computed.

Section 12.—*Industrial blindness for distance*[5] (0.0 per cent. D. V. A.) shall be the ability just to recognize a character which subtends a 55 minute angle at 20 feet and whose component parts subtend an 11 minute angle (V = 20/220).

Industrial blindness for near[6] (0.0 per cent. N. V. A.) shall be the ability just to recognize a character subtending a 55 minute angle at 14 inches and whose component parts subtend an 11 minute angle (V = 14/154).



Bases of visual rating with respect to economic loss of vision.

Distance visual acuity of 100 per cent.[7] shall be the ability to recognize a character which subtends a 5 minute angle at 20 feet and whose component parts subtend a 1 minute angle (V = 20/20).

Near visual acuity of 100 per cent.[8] shall be the ability to recognize a character which subtends a 5 minute angle at 14 inches, and whose component parts subtend a 1 minute angle (V = 14/14).[9]

5. The unit for industrial blindness for distance (V = 20/220) is the approximate average of the units used throughout the United States to represent industrial blindness. The visual angle subtended by the characters representing industrial blindness vary between 50 and 60 minutes, the average being 55 minutes.

6. The unit for industrial blindness for near is based on the same ratio as that for distance; i. e., a character subtending an angle eleven times as great at 14 inches, or V = 14/154.

7. The unit for standard visual acuity for distance has been established by usage and is a character subtending a 5 minute angle, and whose component parts subtend a 1 minute angle.

8. The unit for standard visual acuity for near is established as 14/14, or ability to discern characters which subtend a 5 minute angle, and whose component parts subtend a 1 minute angle at 14 inches.

9. Visual acuity for distance shall be determined at 20 feet, using any test conforming to the Snellen standard, the chart having an illumination of not less than 3 foot candles and no direct light to be within 26 degrees of the line of vision.

Visual acuity for near shall be determined at 14 inches, using any test conforming to the Snellen standard, the chart having an illumination of not less than 3 foot candles.

TABLE 1.—FACTOR A: COMPENSATION FOR LOSS TO CENTRAL VISUAL ACUITY FOR DISTANCE

Visual Acuity at 6 Meters and 20 Feet		Visual Acuity in Percentage	Visual Angle at 20 Feet in Minutes	Compensation in Per Cent. for Loss to Visual Acuity
6/6	20/20	100	5.0	0
6/6	20/30	95	7.5	2.5
6/12	20/40	90	10	5
6/15	20/50	85	12.5	7.5
6/18	20/60	80	15	10
	20/70	75	17.5	12.5
6/24	20/80	70	20	15
	20/90	65	22.5	17.5
6/30	20/100	60	25	20
	20/110	55	27.5	22.5
6/36	20/120	50	30	25
	20/130	45	32.5	27.5
6/42	20/140	40	35	30
	20/150	35	37.5	32.5
6/48	20/160	30	40	35
	20/170	25	42.5	37.5
6/54	20/180	20	45	40
	20/190	15	47.5	42.5
6/60	20/200	10	50	45
	20/210	5	52.5	47.5
6/66	20/220	0	55	50

TABLE 2.—FACTOR A: COMPENSATION FOR LOSS TO CENTRAL VISUAL ACUITY FOR NEAR

Visual Acuity at 14 Inches	Visual Acuity in Percentage	Snellen Type Approximate Equivalent	Compensation in Per Cent. for Loss to Visual Acuity
14/14	100	D = 0.37	0
14/21	95	D = 0.50	2.5
14/28	90	D = 0.75	5
14/35	85	.....	7.5
14/42	80	D = 1.00	10
14/49	75	D = 1.25	12.5
14/56	70	.....	15
14/63	65	D = 1.50	17.5
14/70	60	D = 1.75	20
14/77	55	.....	22.5
14/84	50	D = 2.00	25
14/91	45	.....	27.5
14/98	40	D = 2.50	30
14/105	35	.....	32.5
14/112	30	.....	35
14/119	25	D = 3.00	37.5
20/126	20	.....	40
14/133	15	D = 3.50	42.5
14/140	10	.....	45
14/147	5	.....	47.5
14/154	0	D = 4.00	50

TABLE 3.—FACTOR B: COMPENSATION FOR CONCENTRIC CONTRACTION, OR THE EQUIVALENT THEREOF, OF THE VISUAL FIELD OF ONE EYE *

Contraction to 65 degrees	equals	0.00	per cent. compensation
Contraction to 60 degrees	equals	2.08	per cent. compensation
Contraction to 55 degrees	equals	4.16	per cent. compensation
Contraction to 50 degrees	equals	6.25	per cent. compensation
Contraction to 45 degrees	equals	8.33	per cent. compensation
Contraction to 40 degrees	equals	10.40	per cent. compensation
Contraction to 35 degrees	equals	12.50	per cent. compensation
Contraction to 30 degrees	equals	14.58	per cent. compensation
Contraction to 25 degrees	equals	16.66	per cent. compensation
Contraction to 20 degrees	equals	18.75	per cent. compensation
Contraction to 15 degrees	equals	20.83	per cent. compensation
Contraction to 10 degrees	equals	22.91	per cent. compensation
Contraction to 5 degrees	equals	25.00	per cent. compensation

* To obtain the amount of concentric contraction of the visual field of one eye, determine the amount of contraction for form at each of at least four of the principal meridians. The mean of the four represents the concentric contraction or equivalent thereof of the visual field of one eye.

TABLE 4.—FACTOR C: COMPENSATION FOR LOSS OF BINOCULAR SINGLE VISION *

	Compensation, Per Cent.
Presence of binocular single vision	0
Total loss of binocular single vision	25

* The presence or absence of binocular single vision for distance shall be determined by the Worth binocular single vision test. The presence or absence of binocular single vision for near shall be determined by the Bishop Harmon diaphragm test.

NELSON M. BLACK, Chairman,
HARRY S. GRADLE.

ILLUSTRATIVE CASES INDICATING METHOD OF COMPUTING COMPENSATION

CASE 1.—Ditch digger suffers injury resulting in corneal leukoma reducing visual acuity for distance in one eye to 20/140. Acuity in fellow eye, 20/20. Binocular single vision and visual fields unaffected.

Consulting Table 1: Visual acuity for distance of 20/140 equals 40 per cent. acuity and allows 30 per cent. compensation. Computation:

Loss to factor A	= 60 per cent. =	compensation	30 per cent.
Loss to factor B	= 0 per cent. =	compensation	0 per cent.
Loss to factor C	= 0 per cent. =	compensation	0 per cent.
Total compensation			30 per cent.

CASE 2.—Laborer whose occupation is beyond arms' length receives injury resulting in traumatic cataract. Visual acuity following extraction or absorption of opaque lens, with $+12.00 = +2.00$ axis $135 = 20/20$. Visual acuity of fellow eye is 20/30, with correction of $+0.50$ axis 90° is 20/20. Acuity of injured eye with $+4.00 = +2.00$ axis 135 is less than 20/220, or industrial blindness. Binocular single vision is lost, but visual field of injured eye is intact.

Consulting Table 1: Visual acuity for distance of 20/220 equals 0.0 per cent. acuity and allows 50 per cent. compensation.

Consulting Table 3, Binocular single vision is lost, allowing 25 per cent compensation. Computation:

Loss to factor A total	=	compensation	50 per cent.
Loss to factor B total	=	compensation	25 per cent.
Loss to factor C total	=	compensation	0 per cent.
Total compensation			75 per cent.

CASE 3.—Die maker injured by through and through injury from steel splinter. Resulting visual acuity for near, 14/112. Binocular single vision unaffected. Field of vision impaired equivalent to concentric contraction of 40 per cent.

Consulting Table 2: Visual acuity for near of 14/112 equals 30 per cent. acuity, and allows 35 per cent. compensation.

Consulting Table 4: Concentric contraction of visual field to 40° allows 10.4 per cent. compensation.

Computation:

Loss to factor A	= 70 per cent. =	compensation	35 per cent.
Loss to factor B	= 0 per cent. =	compensation	0 per cent.
Loss to factor C	= partial =	compensation	10.4 per cent.
Total compensation			45.4 per cent.

CASE 4.—Carpenter received penetrating orbital injury from splinter of wood lacerating external rectus resulting in convergent strabismus with irremediate diplopia. Visual acuity for distance, 20/20. Binocular single vision lost. Visual field unaffected. This is covered in Section 4 and allows 50 per cent. compensation, additional compensation for cosmetic defect to be determined by board or commission.

CASE 5.—Laborer receives burn of both corneas followed by dense leukoma. Resulting visual acuity of right eye, light perception. Visual acuity of left eye, 20/120. Visual field, intact.

Computation for right eye:

Loss to factor A	= total =	compensation	50 per cent.
Loss to factor B	= total =	compensation	25 per cent.
Loss to factor C	= total =	compensation	25 per cent.
Right eye total compensation			100 per cent.

Computation for left eye (See Table 1):

Loss to factor A	= 50 per cent. =	compensation	25 per cent.
Loss to factor B	computed with right eye =	compensation	0 per cent.
Loss to factor C	= 0 =	compensation	0 per cent.
Left eye total compensation			25 per cent.

He would be entitled to 100 per cent. of the compensation allowed for the total loss of the essential factors of one eye for the right eye, plus 25 per cent. for the left eye. Additional compensation should be allowed for cosmetic appearance of right eye.

Percentage of Benign Gastric Tumors.—Benign tumors of the stomach are rare and constitute only 1.3 per cent. of all gastric tumors that have come to operation.—Eusterman and Senty, *Surg. Gynec. & Obst.*, January, 1922.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, NOVEMBER 25, 1922

A STUDY OF COMMERCIAL VITAMIN PREPARATIONS

The studies of the physiology of nutrition in recent years have firmly established the indispensability of those food factors known as vitamins for the welfare of the animal organism. A student of the subject [1] has reminded us lately that, in order to appreciate the view that has been established by recent researches on foods and nutrition, it is essential to understand fully the great advantages we now enjoy in being able to think of foods in an entirely different way from what was possible a few years ago. Ten years ago the crude comparison of alimentation with the stoking of an engine seemed satisfactory to most teachers. This is no longer a suitable figure, he adds, for conveying to the student of nutrition the conception which it is desired he should gain. Little more than a decade ago it was supposed that a chemical analysis of a food for protein, carbohydrate, fat and mineral salts was sufficient to reveal its biologic properties. Certain standards of composition had become established on the authority of experts, and it was believed that if any food fulfilled the requirements of these standards with respect to total digestible nutrients, available energy and protein content, it could be counted on to meet the nutritive requirements of the body. Today we recognize the need of essentials which are not indicated by such a classification. At least three play a part in human nutrition.

Although many causes might be assigned to the alleged physical deterioration of the human race in modern times, some persons have felt justified in asserting that the chief factor lies in the unwise choice of food. Consequently, there has been a quite natural tendency on the part of those interested in human betterment to make very specific recommendations as to the improvement of the diet. There is no reason to believe that the requisite supplements which might improve the supposedly defective rations of mankind cannot be secured from widespread natural food sources. This is as true of vitamins as it is of other food factors which may now and then be furnished in quantities below the optimum. Nevertheless, the well meaning nutrition enthusiast (sometimes called a food faddist), as well as the omnipresent food faker, has hastened to promote special products which might contain or be supposed to furnish the desired food components in uniquely valuable form. This suffices to explain the recent form of quackery that has used the remarkable story of the vitamins in physiology as a device to promote the sale of nostrums. Thus, too, because yeast contains vitamin B, the word yeast has been used by the promoters to conjure with in their advertising propagandas.

The Council on Pharmacy and Chemistry has already issued statements in THE JOURNAL [2] embodying its judgment as to the therapeutic possibilities and limitations of so-called vitamin therapy at the present time. No serious student of the subject can fail to recognize the ridiculousness of the recent attempts to supply alleged vitamin-bearing preparations as cure-alls. It is doubtful whether any latent, not to say more evident, avitaminosis is prevalent in this country. Without prejudging the question as to whether commercial vitamin preparations, as contrasted with less manipulated natural food products, are frequently or even occasionally desirable for therapeutic purposes, it should nevertheless be insisted that such preparations as are offered should at least not be fraudulent. It may well be debated whether laxative drugs should be used in so widespread a fashion as has come to be the practice in America; but no one will contradict the thesis that the products offered for sale should fully meet the requirements which the labels on them suggest. Furthermore, they should never be marketed under fraudulent or exaggerated claims.

Inspired by a similar attitude toward products claiming therapeutic potency or specific nutritive properties, Bailey [3] of the Connecticut Agricultural Experiment Station has conducted an investigation of a large number of commercial vitamin preparations publicly offered for sale. The attitude of the examiner has been similar to that long held by the Connecticut station with respect to diabetic foods, viz., that they should be offered under as definite statements regarding their substance, quality and strength as can be made, and that they should not be offered under declarations that foster the practice of unwise self-medication. A statement of proximate composition, within reasonable limits, enables a physician or dietitian to decide whether or not a particular brand of diabetic food is suitable for the patient; or at least it furnishes a basis for

1. McCollum, E. V.: The Newer Knowledge of Nutrition, New York, the Macmillan Company, 1922, p. 361.

2. Yeast Preparations and Vitamin B Concentrates: Report of the Council on Pharmacy and Chemistry, J. A. M. A. **78**: 1146 (April 15) 1922. Yeast Preparations: Report of the Council on Pharmacy and Chemistry, ibid. **79**: 135 (July 8) 1922. Therapeutic Research into the Clinical Field of Yeast Preparations: Report of the Council on Pharmacy and Chemistry, ibid. **79**: 1354 (Oct. 14) 1922.

3. Bailey, E. M.: The Potency of Some Commercial Vitamine Preparations as Compared with That of Dry Brewers' Yeast, Bull. 240, Connecticut Agric. Exper. Station, 1922. A copy of this report can be secured without charge by addressing a request to the Connecticut Agricultural Experiment Station, New Haven, Conn.

intelligent determination of the patient's tolerance. So, in the case of vitamin preparations, the Connecticut report adds, biologic methods of testing have been so far perfected that a reasonable statement of potency can be declared; and the burden of responsibility properly rests with the manufacturer to ascertain and declare the potency of his product as a reasonable guide to its intelligent use. Bailey concludes that the indiscriminate offering of vitamin-bearing remedies under labels suggesting wide curative or remedial properties places them at once in the category of the ordinary "patent medicine."

This is not the place in which to repeat details of this important investigation of the widely heralded commercial vitamin preparations. The report states that apparently many manufacturers are not entirely convinced of the efficacy of their vitamin preparations unassisted, and have therefore added various medicaments of established reputation in therapeutics for good measure or to insure a reaction of some description. The comparative estimates of the potency of the products were made by Bailey on the reasonable assumption that a preparation which, in 100-milligram doses, does not exhibit the potency shown by 100 mg. of a good grade of dry brewers' yeast, employed under comparable conditions, does not justify a claim of superior therapeutic value as a source of water-soluble B vitamin. On this basis nearly half of the advertised products failed conspicuously, while still others showed only inferior content of the vitamin. A few of the products equaled good brewery yeast in potency. Only two or three products among nearly two dozen examined showed any superiority of "concentration" over ordinary yeast. The lesson is obvious, quite aside from the absurdity of the consumption of "patent medicines" claimed to contain vitamin B, and apart from any recital of the unwarranted claims, of which a characteristic example was recently cited in THE JOURNAL.[4]

THE PROPORTIONS OF THE NUTRIENTS IN THE FOOD OF CHILDREN

Successful experience is a good guide in more than one department of human affairs; and it still remains in many respects the most dependable index of adequate nutrition. A recent writer,[5] deploring the loss of physical prestige which he believes to be threatening a nation exposed to changed conditions of living, recommends a system of diet involving the borrowing of the best elements in those several systems which have been thoroughly tested in human experience and have been found successful. Some time must elapse, he concludes, before a full appreciation of the importance of approximating the optimum in the character of the food supply can be expected; but when appreciated at its full value, our knowledge in the field of the science of nutrition will be regarded as our most precious possession.

Large interest must consequently center in the statistics which Holt and his co-workers in New York have been collecting with respect to the food requirements of children. Some of their published data have been reviewed from time to time in THE JOURNAL. The facts were secured by a careful study of the actual food intakes of a large number of healthy children from 1 to 18 years of age. They are valuable not only in showing what the total energy needs apparently are, but also in indicating the outcome of actual dietary habits with respect to the intake of the different types of nutrients. The proportion of the energy intake consumed as protein shows the least variation, more than half of the values being between 14 and 16 per cent. According to the latest compilation of the percentage distribution of calories in the food of adolescents,[6] "it is evident that in the mixed diet commonly taken by children the calories are distributed with surprising regularity." According to Holt and Fales, the results may conveniently be expressed as protein, 15 per cent.; fat, 35 per cent., and carbohydrate, 50 per cent. of the calory intake. In other words, healthy children were found to take, on the average, virtually half their calories as carbohydrate, a little more than one third as fat, and only one sixth as protein. Since 1 gm. of fat has two and one-fourth times the caloric value of 1 gm. of protein, it is evident that in these proportions the amounts of fat and protein are about equal, while the amount of carbohydrate is a little more than three times as great as either the fat or the protein.

It is unwise to push standardization too far in any field, particularly in practical dietetics. Recent studies are showing that the organism can successfully utilize the foodstuffs in greater variety of proportions than was assumed in earlier days. Nevertheless, the dictates of experience may be relied on to give direction to therapeutic feeding. In considering what constitutes a well balanced ration, Holt and Fales remark that when the distribution cited is deviated from to any marked degree for a long period, that is, when what seems to be a proper balance of the diet is disturbed, various undesirable results may follow. If the protein is reduced much below 15 per cent. of the caloric requirement, the nutritive need may not be met. If the fat given supplies much less than 35 per cent. of the total calories, it usually happens that the carbohydrate intake is excessive, and disturbance of digestion may follow. If the fat given supplies too high a proportion of the calories, the fat tolerance of the child may be exceeded and digestive disturbance may result from the excess of fat. High fat with high protein forms a food combination likely to cause constipation. Low fat with high carbohydrate is likely to

4. Susto—Nee Vinol Powder, J. A. M. A. **79**: 1538 (Oct. 28) 1922.
5. McCollum, E. V.: The Newer Knowledge of Nutrition, New York, the Macmillan Company, 1922, p. 433.
6. Holt, L. E., and Fales, Helen L.: The Food Requirements of Children, V, Percentage Distribution of Calories, Am. J. Dis. Child. **24**: 311 (Oct.) 1922.

cause looseness of the bowels. A large carbohydrate intake means a reduction in the necessary protein and probably equally important fat. Such a wealth of experience cannot profitably be overlooked in the planning of a regimen for children.

THE "PROPAGANDA FOR REFORM" IN GERMANY

It is unfortunately true that many members—all too many—of our profession still fail to grasp the widespread significance of the labors of the Council on Pharmacy and Chemistry of the American Medical Association in the interest of decent pharmaceutic practice. We are confident that few, if any, thoughtful American physicians would welcome a return to the days when the labels on many drug preparations meant little to the untutored dispenser, and when the simplest compounds or mixtures were allowed to be distributed freely, without challenge, in the guise of proprietary remedies heralded to contain mysterious and novel potencies of which only the fortunate "discoverer" was aware.

It has, indeed, been a difficult task, involving considerable self-sacrifice on the part of leaders in science in this country, to keep up the fight for the truth —the unconcealed truth—in all that pertains to the practice of medicine. An effort toward the same end was made in Germany before the war, when a similar movement was inaugurated there. At a meeting of the German Congress for Internal Medicine in 1911, a German Council on Pharmacy and Chemistry, Die Arzneimittelkommission des Kongresses für innere Medizin, was organized.[1]

At the present time, it comes as both encouragement and satisfaction to those who have lent their efforts to the propaganda for reform to learn that in Germany, in spite of the demoralizing effect of the war, efforts toward the establishment of a council on pharmacy and chemistry are again being made. A commission of the German Aerztevereinsbund, including such well known leaders as Professors Heffter, Klemperer, Lenhoff and Schwalbe, has issued an appeal[2] directed particularly against the misleading or fraudulent advertising still so common in many medical journals. Every "conscientious and scientifically educated physician" is urged, on the basis of obvious propriety, never to prescribe a drug of which the chemical nature (and particularly the chemical ingredients) as well as the pharmacologic action are not known through reputable journals or textbooks. The physician is further warned to be at once suspicious toward advertisements which exhibit exaggerated statements, and he is expected to demand of the professional journals to which he subscribes that they keep their columns free from such objectionable advertisements.

To acquaint the German medical profession with the methods of the Council on Pharmacy and Chemistry of the American Medical Association and the changes that have been brought about in the United States, the journal of which Dr. Schwalbe is editor recently published a lengthy article[3] that detailed the organization, aims, objects and accomplishments of the Council. To any one who has observed the conditions on the continent, such admonitions and such leadership in the direction of reform seems most timely. Here, in the United States, where two decades of experience have pointed the way—the incontrovertible way—to honesty in professional performance and ideals, the plight of others must serve to continue our steadfastness of purpose. The work of the Council on Pharmacy and Chemistry of the American Medical Association deserves more than lethargic approval from the thousands of members of our Association; it should command their active support and open cooperation.

ARE MITOCHONDRIA IDENTICAL WITH BACTERIA?

About thirty years ago, the attention of biologists was directed by Altmann[4] to certain structures in the cytoplasm which he believed to be elementary microorganisms and to represent the only living constituent of this portion of the cell. Subsequently these granules, visible in the living organism and stained only by special processes, were termed mitochondria. As they have been assumed to play an important physiologic part in the cell, the mitochondria have been the subject of increasing study and have had a large variety of functions assigned to them. Thus, a recent writer[5] has asserted without hesitation that, physiologically, mitochondria are organs of elaboration. In them, through some unknown physicochemical phenomena, most of the products of cell activity may be formed. The product, whatever may be its specific nature, has its origin in a granular mitochondrium or in a rod mitochondrium. Each product is surrounded by a mitochondrial exterior surface inside of which it develops slowly; the exterior surface remains until the product has reached its state of maturity.

Portier[6] has supported the assertoin that mitochondria are symbiotic micro-organisms. Since the cell has come to be considered as the "vital unit" in the tissues, it would force, as one writer[7] has expressed it, a complete readjustment of current ideas of the organization of living matter and the application to it of the laws of physics and chemistry, if it were actually demonstrated that virtually all cells contain structures endowed with independent vitality such as is repre-

1. The German Council on Pharmacy and Chemistry, J. A. M. A. **62**: 1271 (April 18) 1914.
2. Aufruf an die Aerzte! Deutsch. Arch. f. klin. Med. **140**: 253 (Sept.) 1922.
3. Puckner, W. A.: Die Bekämpfung des Geheimmittelschwindels in Amerika durch die Abteilung für Pharmakologie und Chemie der American Medical Association, Deutsch. med. Wchnschr., Oct. 6, 1922, p. 1352.
4. Altmann, R.: Die Elementarorganismen und ihre Beziehungen zu den Zellen, Leipzig, 1890.
5. Guilliermond, A., in Marshall's Microbiology, Ed. 3, Philadelphia, P. Blakiston's Son & Co., p. 20.
6. Portier, P.: Les symbiotes, Paris, 1918.
7. Cowdry, E. V., and Olitzky, P. K.: Differences Between Mitochondria and Bacteria, J. Exper. Med. **36**: 521 (Nov.) 1922.

sented by bacterial inclusions. In pathology, he adds, these views, if verified, would have a distinct bearing on our conception of the significance of *Rickettsia* bodies in typhus fever, trench fever and other conditions, and would leave us in some doubt regarding the criteria to be employed in the identification of micro-organisms the nature of which remains obscure.

Amid this uncertainty, reassurance comes from the new studies of Cowdry and Olitzky [7] at the Rockefeller Institute for Medical Research. A direct comparison which they have made between mitochondria and bacteria in the living condition reveals microchemical differences which can be attributed only to fundamental dissimilarities in chemical constitution. The spores and capsules characteristic of bacteria have not been noted in mitochondria; motility due to flagellar action has not been observed. In fermentation or disease, bacteria tend to increase, whereas the mitochondria in cells tend to decrease, and there is no reason to believe that mitochondria possess the power of independent and characteristic growth apart from cells. The theory of "symbiotes" thus remains without convincing support, while the possible importance of the widely present mitochondria in cell physiology still looms large.

PLACENTAL PERMEABILITY

Since the pioneer studies of William and John Hunter in the eighteenth century, the placenta has been known to act as an obstructive organ. The mother's blood, as such, does not enter the fetus, nor is the reverse phenomenon possible; nevertheless, the mechanism of interchange between the maternal and the fetal organism is by no means entirely familiar. In an excellent essay on the nutrition of the fetus, Slemons [1] has reviewed the antagonistic hypotheses as to how substances, either nutrient or excretory in character, pass through the placental partition. In the main, two antagonistic theories have developed: One, the vitalistic, assumes that the wall of the chorionic villus takes an active part in the placental interchange; the other, the mechanistic, regards this wall as a passive, semipermeable membrane conforming with the laws of osmosis and diffusion.

There is general agreement among physiologists that insoluble substances do not pass the placenta. As Slemons reminds us, the formed elements of the blood are confined to that circulation in which they originate; consequently, an infant whose mother is suffering from leukemia presents a normal blood picture. Moreover, cinnabar, barium sulphate and other insoluble compounds, when introduced into either the mother or the fetus, are effectually confined within the circulation in which they are introduced. There is, however, an active interchange of other types of substances, including sugar, amino-acids, urea and other nitrogenous compounds occurring in the blood. In order to ascertain further to what extent physicochemical processes can explain the transfers or lack of penetration, as the case may be, Shimidzu [2] has studied the permeability of the placenta for dyestuffs of widely different properties in pregnant animals when both mother and fetus could be experimentally examined at any period. The outcome, so far as the special products investigated are concerned, was the demonstration that the placenta acts as an ultrafilter. The power of the dyes to pass through the placenta runs parallel to the colloidal state of their solution in the serum, especially to their ability to spread in a gel of high percentage. In view of the size of the colloidal particles which can pass the placenta, it is inferred that proteins must be decomposed into their components in order to pass from the mother to the fetus. The facts at hand corroborate Slemons' conclusions, based on the study of human data of a different sort, in showing that during the latter part of pregnancy, at least, the placental partition is passive and behaves like a semipermeable membrane; the facts at hand, in other words, support the mechanistic hypothesis of placental function. Thus, the amino-acids, from which fetal protein is built, and glucose, which supplies the requisite energy for tissue construction, pass freely to the new organism in accord with the principles of diffusion. While in the mother's blood, these substances are not more accessible to her own tissues than to the fetus; and probably the quantity of them that reaches the fetus is regulated by the rate of their consumption in its body. When, owing to disease of the excretory organs, large quantities of waste products accumulate in the mother's blood, their concentration has been shown to be always the same in both maternal and fetal circulations at the same time. One may agree with Slemons, therefore, in the belief that, not unlikely in the presence of such maternal complications, intra-uterine death may be explained on the basis of an inefficient removal of fetal waste.

1. Slemons, J. M.: The Nutrition of the Fetus, New Haven, Yale University Press, 1919.

2. Shimidzu, Y.: On the Permeability to Dyestuffs of the Placenta of the Albino Rat and the White Mouse, Am. J. Physiol. **62**: 202 (Oct.) 1922.

3. The Statistical Evidence of Cancer Increase, editorial, J. A. M. A. **69**: 2117 (Dec. 22) 1917.

Current Comment

THE MORTALITY FROM CANCER

Statistics again indicate a rise in the mortality from cancer. The returns for 1921 compiled by the Bureau of the Census show that more than 76,000 deaths were due to cancer in the death registration area. Assuming that the death rate from cancer was the same for the remainder of the United States, the number of deaths from cancer in the entire country in 1921 was 93,000, which is 4,000 more than the number estimated for 1920. The cancer death rate in the registration area in 1921 was 86 per hundred thousand, against 83.4 for 1920. THE JOURNAL has pointed out [3] that a part of the reported increase in cancer is probably due to changes in the sex and age composition of the popula-

tion. A state, for example, having comparatively more women or aged persons would be expected to have a higher mortality rate from cancer. The Census Bureau makes allowance for this difference in the sex and age distribution of the population by using "adjusted" rates when comparing one state with another, but gives no data on the "adjusted" cancer rates for the preceding year. The highest "adjusted" cancer rate for 1921 was in Massachusetts (99.6 per hundred thousand); the lowest in South Carolina (47.6). When separate "adjusted" rates were calculated for the white and colored population, the highest rate for white people was found in New York (95.9), and the lowest in Tennessee (51.5). The highest adjusted cancer rate for colored people was also in New York (90.6), and the lowest for colored people in Florida (36.4). In commenting on these figures, the Department of Commerce says that the white and colored races seem equally susceptible to cancer, but both races seem less susceptible in the South than in the North. Statistics sometimes lead us astray by their apparent clearness, which later is found to be a mere mirage. In this instance, the strict interpretation of figures fails to consider that "we find the cancer death rate highest in the most advanced communities, and lowest in the most backward, not because 'cancer is a disease of civilization,' but simply because in the former localities the statistics come nearer reflecting the actual facts." [4] The Bureau of the Census possibly found more cancer in New York and Massachusetts because in those states there are more hospitals, more physicians, and more intense efforts to diagnose cancer.

HUMAN EFFICIENCY

In his presidential address before the Section of Physiology at the Hull meeting of the British Association, E. P. Cathcart [5] of Glasgow called attention to the importance of distinguishing clearly between mechanical or muscular efficiency, and industrial or productive efficiency, in discussions of human performance. Both features involve physiologic factors, so that they are fundamentally related. The proportion of energy converted into mechanical or external muscular work in the use of the contractile tissues has often been measured under a variety of conditions of performance. Generally speaking, the efficiency with which work is done satisfactorily in the engineering sense is about 25 per cent. Industrial efficiency involves something more—usually a consideration of the output. None of these aspects of human endeavor can be adequately considered solely from the statistical standpoint, because the organism involved is a complex of many parts in which maintenance and self repair through the combined cooperation of circulation, respiration and nutrition play a significant part. All investigators are agreed that the foremost factor influencing both mechanical and industrial efficiency is fatigue. Cathcart defines this as the "antithesis of efficiency." It is the diminished capacity for doing work—the failing ability to carry on. He has given special prominence to four features of work which affect efficiency and the genesis of fatigue. They are speed, load, rhythm and rest. The effect of undue variations of some of these has long been recognized. It is known, for example, that when a load becomes excessive, the efficiency rapidly falls away; but this is all too often overlooked by those who are concerned with the ultimate results. Less well recognized is the fact that a submaximal effort may be inefficient. The rhythm which experienced workers tend to acquire as a habit of work is merely an example of a conditioned reflex; it is the outcome of one of the most fundamental properties of the nervous system, and is a potent factor in the prevention of fatigue. Finally, it should be noted that rest is not always secured best by mere quiescence. A change of posture or the substitution of a new type of work may be equally efficacious in the attempt to carry on. These are a few of the features of the problem of industrial efficiency the quest of which involves the welfare of the individual, the nation and the race.

4. The Incidence of Cancer, editorial, J. A. M. A. **78**: 1818 (June 10) 1922.
5. Cathcart, E. P.: The Efficiency of Man, Lancet **2**: 547 (Sept. 9) 1922.

THE ORIGIN OF CERTAIN TYPES OF BLOOD CELLS

The special significance recently accorded to the lymphocytes of the blood lends interest to the problem of their origin. It has long been known that lymphocytes accumulate in chronic inflammatory areas in which the active infective agent, frequently, is no longer present, and it has been surmised that they may give off ferments which react on the disordered tissues. The experiments of J. B. Murphy and his collaborators, who asserted that the leukocyte is concerned in the resistance and susceptibility of mice to cancer grafts, have led to numerous statements regarding the rôle of these blood cells in immunity. They are challenged, however, by the investigations of F. C. Wood of the Crocker Foundation laboratory, so that the question remains an open one.[1] In an elaborate review of the origin of the cells of the blood, Sabin [2] has contended that the sharp separation of the blood-forming organs into two groups, bone marrow and lymph glands, as Ehrlich thought, has not been borne out. She believes that the lymphocytes arise in the bone marrow as well as the so-called lymphoid tissue. Lee [3] has lately demonstrated that the thoracic duct is at least an important avenue for the entrance of small lymphocytes into the blood stream; for when the duct was ligated intrathoracically in experimental animals, there was an immediate large reduction of this type of cells in the blood. Only with the establishment of a collateral circulation of the thoracic lymph did the number of small lymphocytes approach the blood normal. With respect to another type of blood cell, the megakaryocyte, which Wright showed to be the precursor of the platelets, the latter arising as fragmented parts of the cytoplasm, Minot [4] regards

1. Karsner, H. T., and Ecker, E. E.: The Principles of Immunology, Philadelphia, J. B. Lippincott Company, 1921, p. 171.
2. Sabin, F. R.: The Origin of the Cells of the Blood, Physiol. Rev. **2**: 38 (Jan.) 1922.
3. Lee, F. C.: Changes in the Number of Small Lymphocytes of the Blood Following Ligation of the Thoracic Duct, J. Exper. Med. **36**: 247 (Aug.) 1922.
4. Minot, G. R.: Megacaryocytes in the Peripheral Circulation, J. Exper. Med. **36**: 1 (July) 1922.

their presence in the blood as indicative of a bone marrow under intense physiologic strain. The megacaryocyte is commonly seen as an occasional cell in the peripheral blood of patients with myelogenous leukemia. In general, Minot believes, the presence of these giant bone marrow cells in the blood stream is not to be looked on as indicative of a desirable type of marrow regeneration, but more often as indicative of a marrow disintegration, recovery from which may, however, occur.

THE PHYSIOLOGY OF THE BONE MARROW

During all periods of life there must be a more or less continual formation of red blood corpuscles, the hematopoiesis being greatly accelerated under conditions of stimulation such as are caused by hemorrhages and certain other pathologic states. It is generally agreed that in the adult the seat of formation of the erythrocytes is the red marrow of the bones. Most of the evidence regarding this important function has been derived from histologic studies; and much remains to be learned. Among the debates, for example, is the question as to whether the red blood corpuscles are intravascular or extravascular in origin. A recent reviewer [1] has remarked that the study of the blood at the present time has passed beyond the morphologic stage and is part of the development of modern experimental cytology. In this study, it is added, the anatomist and the pathologist meet on common ground. Some of the difficulties inherent in the experimental investigation of the function of the bone marrow have been mastered by Drinker and Lund [2] by an elaborate technic involving actual perfusion of the bone marrow. In this way it has become possible to follow more adequately the movements of the red cells from the latter, and to appreciate some of the factors concerned in their genesis. It has become clear thereby that the capillaries conducting blood in the bone marrow of the mammal in a condition of normal blood formation are closed structures, lined throughout with endothelium, and not in communication with the marrow parenchyma. Under conditions of active red blood-cell formation, the extremely delicate walls of these capillaries are grown through by irregularly placed red cells in varying stages of maturity. According to Drinker and his colleagues, the normal mature erythrocytes are delivered to the blood stream through the extraordinarily thin endothelial membrane lining the capillaries. This process, he states, must occur constantly and under the influence of such slight difference in pressure between the outside and inside of the blood vessels as to cause no actual vascular rupture. The perfection of a method of studying a tissue like a marrow-containing bone under physiologic conditions subject to variation at the will of the investigator is likely soon to bring new knowledge into a field still awaiting extensive cultivation.

1. Sabin, Florence: On the Origin of the Cells of the Blood, Physiol. Rev. **2**: 38 (Jan.) 1922.

2. Drinker, C. K.; Drinker, K. R., and Lund, C. C.: The Circulation in the Mammalian Bone-Marrow, with Especial Reference to the Factors Concerned in the Movement of Red Blood-Cells from the Bone-Marrow into the Circulating Blood as Disclosed by Perfusion of the Tibia of the Dog and by Injections of the Bone-Marrow in the Rabbit and Cat, Am. J. Physiol. **62**: 1 (Sept.) 1922.

THE PANCREAS AND CARBOHYDRATE METABOLISM

As it has been demonstrated experimentally that injection of suitably prepared extracts of the pancreas can prevent or reduce the hyperglycemia which results after extirpation of sufficient pancreatic tissue,[1] it has become desirable to ascertain the mechanism whereby this interesting and important result is accomplished. Is the potency restricted alone to those instances of increased content of blood sugar associated with inadequate pancreatic function and therefore in a sense specific for pancreatic diabetes, or is it more general in its manifestation? Light has been thrown on this question by the recent studies of the group of physiologists at the University of Toronto who are engaged, under the leadership of J. J. R. Macleod, in the extensive investigation of the control of abnormalities of carbohydrate metabolism. They [2] have just reported that when an animal has received suitable doses of pancreatic extracts to which the name of "insulin" has been given tentatively, a variety of procedures which ordinarily provoke hyperglycemia and often glycosuria fail to do so. In other words, the pancreatic hormone, if we may so designate it for the present, may in some way inhibit the development of hyperglycemia in animals subjected to conditions, such as piqûre of the fourth ventricle of the brain, dosage with epinephrin, and asphyxia, which otherwise cause it. All the facts now available, therefore, point to the conclusion that the action of the hormone on carbohydrate metabolism is fundamental. It apparently matters not whether there is much or little glycogen stored in the tissues. Furthermore, since the pancreatic hormone influences the excretion of ketone substances, the mobilization of fats and the respiratory quotient, the behavior must be interpreted to mean that the effective component is essential in the regulation of the series of intermediary metabolic changes that culminate in the complete utilization of both fat and carbohydrate. One is impelled to ask whether the hormone actually stimulates glycogenesis to the extent that it takes glucose away from the systemic blood. Only further experiments can furnish a correct answer.

1. A Pancreatic Hormone in Diabetes, editorial, J. A. M. A. **79**: 1428 (Oct. 21) 1922.

2. Banting, F. G.; Best, C. H.; Collip, J. B.; Macleod, J. J. R., and Noble, E. C.: The Effects of Insulin on Experimental Hyperglycemia in Rabbits, Am. J. Physiol. **62**: 559 (Nov.) 1922.

Good Health Record for 1922.—The *Statistical Bulletin* of the Metropolitan Life Insurance Company shows that, for the first nine months of 1922, the health record is better than that of any year in its history except last year, and the death rate is only slightly higher than for last year. The death rate for communicable diseases dropped 28 to 40 per cent., except for measles, influenza and pneumonia. The outstanding favorable feature in the drop is the tuberculosis record, the rate for the white race being 101.2 per hundred thousand, which is slightly less than for last year, while the rate for negroes has declined from 278.7 to 255.6. Deaths from alcoholism, exclusive of those due to wood alcohol poisoning, numbered 202 for the nine months, this being eighty more than during the whole year of 1921. Suicides and homicides have increased among white policy holders. The lowest mortality rate ever recorded was in September of this year. The automobile accident death rate, however, was the maximum recorded, being 16.5 per hundred thousand.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Medical Association of the Southwest.—At the seventeenth annual convention of the association held in Hot Springs, October 16-18, the following officers were elected for the ensuing year: president, Dr. Frederick H. Clark, Dawson Springs, Ky.; vice presidents, Drs. Clinton K. Smith, Kansas City, Mo., Williston H. Addington, Altoona, Kan., R. E. House, Ferris, Texas, and J. H. Buckley, Hot Springs, Ark., and secretary-treasurer, Dr. Edward H. Skinner, Kansas City, Mo. The next annual meeting will be held at Kansas City, Mo., in October, 1923.

CALIFORNIA

Personal.—Dr. Percy T. Phillips, Santa Cruz, was reelected president of the state board of medical examiners at a meeting in Sacramento, October 17. Dr. Harry V. Brown, Glendale, and Dr. Charles B. Pinkham, San Francisco, were reelected vice president and secretary, respectively.——Dr. John A. Reily, director of the state department of institutions, has resigned to take up his former position as superintendent of the Southern California State Hospital, at Patton.——Dr. Richard H. Creel has arrived in San Francisco, to take the place of Dr. Friench Simpson as medical officer in charge of the quarantine station of the U. S. Public Health Service. Dr. Simpson is returning to Washington, D. C.——Dr. Henry E. Morrison has been appointed medical superintendent of the Sacramento Hospital to succeed Dr. Edouard S. Loizeaux, who resigned recently.——Dr. Irving S. Zeimer, Stockton, has been appointed county health officer of San Joaquin County.——Dr. David Starr Jordan, San Francisco, has sailed for Japan. He will return to Stanford University in December.——Dr. Arthur S. Baker has been appointed district health officer for Whittier.——Dr. Frank E. Blaisdell, city physician of San Francisco, has resigned after two years' service and has gone into private practice at Santa Paula.

COLORADO

Hospital News.—Pliny O. Clark has resigned as superintendent of the Presbyterian Hospital, Denver.——A new addition will be erected for the Union Printers' Hospital Home and Tuberculosis Sanatorium, Colorado Springs, at a cost of $125,000.——The Haxtum General Hospital, Haxtum, has been reopened recently.

CONNECTICUT

State Health Commissioner Resigns.—Dr. John T. Black, Hartford, has resigned as state health commissioner. Governor Lake has appointed Dr. Stanley H. Osborn to succeed Dr. Black.

Yale University News.—Dr. Arthur Bliss Dayton, associate in medicine at the Yale School of Medicine, New Haven, has been granted a year's leave of absence to serve as professor of medicine at Hunan-Yale College of Medicine. He is now in Changsha.——The annual report of the treasurer of Yale University, New Haven, for the year, published, November 19, records an unusually large number of gifts, made to meet the conditions of the $3,000,000 subscribed to general endowment by Mrs. Stephen V. Harkness. As a result of these contributions and the establishment of six new professorship funds in memory of John W. Sterling, of almost $250,000 each, the total of Yale's endowment funds is shown to be $32,662,011, an increase of $6,985,001 in the last year. Gifts for building and other nonpermanent funds received in the same period aggregated $1,651,290; while gifts to income amounted to $740,642. Included in the latter were contributions of $185,000 from the General Education Board and $30,000 from the Commonwealth Fund, to enable the Yale School of Medicine to provide funds for the reconstruction of two wards in the New Haven Hospital, and to build laboratories in that institution, with which the medical school is affiliated; $70,000 more from the Commonwealth Fund toward the expenses of the department of surgery; and $286,664 received through 9,493 contributors to the Alumni Fund, the principal of which was also increased by $147,060.——A new section of the report is devoted to a summary of the work of the department of university health which last year gave 2,757 medical examinations, 915 orthopedic examinations, 1,929 dental examinations, and 9,012 consultations of various kinds.——Another section dealing with the work of the bureau of appointments shows that the total value of scholarships, fellowships and loans to students during the year was about $200,000, while in addition self-supporting students reported to the bureau that they had earned during the school year and in vacation time more than $170,000.

DISTRICT OF COLUMBIA

Clinics to Be Resumed in Public Schools.—Under the auspices of the Washington Tuberculosis Association, active resumption of seventeen nutrition clinics was effected, November 6. The success of the clinics during the last two years has convinced those in charge that they are a vital necessity in the community. It is proposed that this work be adequately provided for by the regular public school appropriation; but, until such provision can be made, the tuberculosis society will continue the work. During the summer period, this work will be continued at the local summer camps for children.

Campaign for University Funds.—A get-together meeting of Howard University, Washington, was held, November 8, for inaugurating a campaign to raise $500,000 for the school of medicine. For the first time, it is stated, the faculties of the junior college, schools of liberal arts, applied science, music, religion, law and medicine conferred as to how the entire university may cooperate with the school of medicine in securing the conditional gift of $250,000 offered by the General Education Board of New York, provided the university raises a like sum. President J. Stanley Durkee presided at the dinner. It was suggested by one of the members of the faculty that each one pledge not less than one month's salary to the endowment fund. Approximately $50,000 is all that is now in hand toward the amount needed.

New Buildings Dedicated.—The cornerstone of the new building of the National Academy of Sciences and of the National Research Council, at Washington, was laid, with a simple ceremony, October 30. This building occupies an entire block north of the Lincoln Memorial and is designed to house the offices of the two organizations and to provide exhibition space for the material representing certain of the achievements of science. The present building will represent an expenditure of more than $1,000,000, which was provided by the Carnegie Corporation of New York. It is expected to be ready for occupancy in the fall of 1923.——With impressive ceremonies attended by many distinguished army officers, the cornerstone of the new $500,000 medical school building at Walter Reed General Hospital, Washington, was laid, November 13, by Brig.-Gen. Walter D. McCaw, commandant of the Army Medical School. The new structure is expected to be ready for occupancy by April 1, 1923. It will contain a memorial tablet to members of the medical service who lost their lives in France during the World War. Another building will be erected parallel to the one now under construction, in the near future, and the two will be joined by a central structure containing an amphitheater.

ILLINOIS

Diphtheria and Scarlet Fever at White Hall.—When twenty cases of diphtheria and twelve of scarlet fever were reported recently at White Hall in Greene County, three members of the medical field staff of the state department of public health, who were promptly detailed for duty there, took nose and throat cultures from 800 schoolchildren and teachers. In all suspected and known cases of communicable disease, quarantine was established and observation maintained, with the result that the situation is rapidly clearing up.

State Health News.—The schools at Rockbridge, Jersey County, were recently closed on account of the prevalence of diphtheria.——The Red Cross at Rock Island has contributed $500 to the local board of education, to supply milk and crackers to the undernourished children of the schools.——The health authorities at Princeton have begun a systematic search for diphtheria carriers.——A health organization has been perfected in the Twenty-Third District, com-

posed of the counties of Monroe, St. Clair, Madison and Randolph.——An epidemic of smallpox now exists at Rock Falls, and an order has been issued for general vaccination.

Personal.—Dr. James M. Neff, Chicago, was the principal speaker at a banquet of the Kankakee County Medical Society in that city, November 8.——Dr. Adelbert M. Austin, Mendon, has been appointed health superintendent of District 18, which comprises the counties of McDonough, Hancock, Adams, Pike and Brown.——Dr. Harlan W. Long, head of the Peoria U. S. War Veterans' Bureau, has received the French bronze medal of honor for work in epidemics. Dr. Long served as major, M. C., U. S. Army, during the World War, and the French Ministry of Social Hygiene and Welfare awarded the medal in recognition of his services in treating influenza in southern France.

Chicago

Institute of Medicine.—The Pasteur lecture for 1922, of the Institute of Medicine of Chicago, was delivered by Dr. Jacques Loeb of the Rockefeller Institute, November 24.

Work on New Laboratory Started.—Ground has been broken for the new laboratory of the department of hygiene and bacteriology of the University of Chicago, which when completed will be devoted to bacteriologic and chemical research. It will be erected at a cost of $50,000.

Painters Inaugurate Health Campaign.—Under the auspices of the Chicago Painters' District Council, a health campaign will be conducted among union painters for the purpose of decreasing occupational diseases and injuries, it was announced, November 12. Members of the union will be examined by physicians at regular intervals as part of the campaign.

Medical Library Contracts Let.—Contracts amounting to almost $500,000 have been let for the medical research library to be erected in connection with the medical group of the University of Illinois. The building will comprise five stories of library and laboratory facilities, with adequate equipment for all kinds of medical research. The institution will be erected south of Cook County Hospital. It will be in Gothic style, finished in brick and stone.

Sex Hygiene Lectures for Parents.—Lectures will be given by members of the board of education to instruct parents of schoolchildren in morality, ethics and sex hygiene, it was announced, November 17. The lectures will be given at night in the school buildings. Trustees who will lecture are Drs. Klarkowski, Sadie Bay Adair, John Dill Robertson, Mr. Hart Hanson and J. Lewis Coath. There are approximately fifty community centers and thirty evening schools, in addition to the parent-teacher organizations in Chicago.

Personal.—Dr. John W. Birk, president of the Lakefield Hospital board, gave a dinner to the staff of the institution, November 16, following his return from an extensive hunting trip.——Prof. D. Pahle, assistant professor of physics at the University of Frankfort, Germany, arrived in Chicago, November 18. Under the auspices of the American Society for the Control of Cancer, he will give a series of demonstrations of the deep-therapy roentgen-ray machine at the Norwegian-American Hospital. Dr. Pahle is assistant to Dr. Dessauer.

Proposed Health and Safety Commission.—An ordinance was introduced at a meeting of the city council, November 15, to create a health and safety commission composed of the chief of police, the health commissioner, the building commissioner and two civilians. The purpose of the commission was set forth as follows:

> It shall be the duty of the commission to make a complete and comprehensive survey of all premises and neighborhoods in which it is alleged or suspected that prostitution is carried on, for the purpose of enforcing the health, sanitary, safety and police regulations, and for the purpose of securing the maximum protection for the public against the dangers of prostitution, disease, fire and accident existing therein.

Under the measure, the commission would be given power to enforce all laws, ordinances and regulations pertaining to vice and prostitution.

LOUISIANA

Personal.—Dr. W. W. Knipmeyer has been appointed health director of Natchitoches Parish.——Dr. Louis A. Meraux has been appointed head of the St. Bernard Parish Health Board.——Dr. Gaston Trosclair, Thibodaux, has been appointed U. S. Surveyor of Customs.

MARYLAND

Diphtheria Outbreak in County School.—State health officers are combating an outbreak of diphtheria among the schoolchildren of Hyattsville. Fourteen cases have already been reported to the state department of health. Dr. Victor H. DeSomoskeoy, recently appointed deputy state health officer, and public health nurses are taking cultures and administering antitoxin. Efforts are being made to isolate carriers of the disease.

Hospital News.—Bids have been taken on the construction of a marine hospital at Baltimore. The estimated cost of the project will be $189,000.——The Peninsula General Hospital, Salisbury, recently moved into its new building, which when completed will cost approximately $140,000.——The first unit of the Louisa Parsons Nurses' Home of the University of Maryland was dedicated, November 16. Governor Ritchie delivered the dedicatory address. The money for the erection of the institution was raised during 1920 by subscription. It is named for the first superintendent of the nurses' home of the hospital.

MASSACHUSETTS

Antituberculosis Association.—At the annual meeting of the Lawrence Antituberculosis League Drs. Harold M. Allen, Carl H. Eidam, William H. Merrill, Henry F. Dearborn, George B. Sargent, George W. Dow and Nicholas J. Scarito were appointed directors. Dr. Alexander L. Siskind was elected vice president.

Health Department Activities.—Owing to the widespread interest in the Schick test and the prevalence of diphtheria, the department of public health is sending form letters addressed to the "head of the family," to houses where diphtheria is or has been, asking whether proper steps have been taken by the other members of the household to protect themselves by the injection of antitoxin, with advice to talk the matter over with the family physician. Further information is offered on request.

MICHIGAN

Personal.—Dr. Rita B. Tower, Flint, sailed, November 4, on the White State liner *Cedric* for Liverpool, enroute to Bombay, India, for missionary work in that country. Eleven Methodist missionaries, recruited from California, Oregon and other Western states, sailed with Dr. Tower.——Dr. Hugh Cabot, Ann Arbor, spoke on "The Management of Small Calculi in Kidney and Ureter" at a meeting and banquet given by the medical staff of the Geneva City (N. Y.) Hospital, November 9. More than 100 physicians were present at the dinner.

MISSOURI

Personal.—Dr. John R. Caulk, St. Louis, has been elected president of the Southwestern Branch of the American Neurological Association.——Dr. Warren P. Elmer, St. Louis, for seventeen years connected with the teaching staff of St. Louis University Medical School, has been appointed associate professor of medicine, Washington University School of Medicine.——Dr. Willard Bartlett, St. Louis, spoke on "The Choice of an Operative Method Especially Suited to the Individual Goiter Patient," before the Peoria (Ill.) City Medical Society, October 20.

Hospital News.—A $50,000 residence has been donated to the Methodist Church at Joplin, to be converted into a hospital building. Plans are under way to build an annex and open the institution early in the new year. Joplin, at present, has only one hospital, St. John's, a 100-bed institution.——City officials of St. Louis are preparing to submit for the approval of the people a bond issue for public improvements amounting to $76,000,000. Included is an item of $5,000,000 for hospital facilities. The director of public welfare recently declared at a hearing, that 300 patients are sleeping on the floors of the City Sanatorium for the Insane; that the City Hospital is overcrowded, and that the Koch Hospital for the Tuberculous, built to house 100 patients, is now caring for 1,000 persons. With the $5,000,000, it is planned to erect an addition to the Koch Hospital and to the City Sanatorium; to continue development of the Training School for the Feebleminded; to make additions to the City Hospital, and to erect a new morgue, a manual training school for Bellefontaine Farm, a building at the Girls' Farm, a negro hospital and a smallpox isolation building. Dr. W. W. Graves, president of the St. Louis Medical Society, assured the committee that the proposition would have the unanimous support of the medical society.

MONTANA

Dr. Rhoads a Senator.—Dr. Harmon T. Rhoads, Choteau, president of the Medical Association of Montana, has been elected to the state senate. Dr. Rhoads has served two terms in the lower house of the Montana legislature.

NEBRASKA

Medical Women Organize.—At a meeting of women physicians at the office of Dr. H. Kathleen Sullivan, Omaha, November 7, the Omaha Women's Medical Society was organized. The membership will be limited to women.

Personal.—Dr. Clinton H. Smith, Big Springs, has been in the Smith Hospital, Hanna, Wyo., for the past three months, suffering from septic poisoning, following infection of one thumb.——Dr. Ira O. Church, Belvedere, has been appointed county health officer of Geary County, Kan., with headquarters at Junction City, to succeed Dr. Clarence Kinnaman, who has been appointed state epidemiologist.

NEVADA

Nevada State Prohibition Act.—At the annual meeting of the Nevada State Medical Association the following resolution was passed:

WHEREAS, The Nevada state prohibition act forbids the use of alcohol and alcoholic liquors by the medical profession in the treatment of diseases, and

WHEREAS, The majority of the physicians of the United States believe that alcohol is a necessary and essential therapeutic agent in the treatment of disease, and

WHEREAS, This fact has been recognized by the National Prohibition Act by virtue of its provision permitting the use of alcohol and alcoholic liquors by the medical profession, and

WHEREAS, There appears to be no sound or valid reason that there should be any difference between the state and federal law in this respect, now therefore be it

Resolved, That it is the sense of this association that the Nevada prohibition act be amended so as to permit the use of alcohol by the medical profession of this state in the treatment of disease, and be it further

Resolved, That the officers of this association in its behalf use their utmost endeavors at the next session of the legislature of the state of Nevada, to secure an amendment to the Nevada prohibition act in conformity with the view of this association as herein expressed.

NEW JERSEY

Decoration for Dr. Nittoli.—The French government has awarded the distinguished service medal to Dr. Rosco M. Nittoli, Elizabeth, for services rendered during the World War, when attached to Base Hospital No. 67.

Gift for Pediatrics.—Dr. William P. Watson, Jersey City, consulting medical director of the Prudential Insurance Company of America, has donated the sum of $5,000 for the establishment of a permanent fund, to be known as the Dr. William Perry Watson Foundation in Pediatrics, to the College of Physicians and Surgeons of Columbia University, New York, his alma mater. The annual income of this fund will be given in cash to the member of the graduating class showing the most valuable work in the study of the diseases of children during a regular course at the college.

NEW YORK

Deaths from Alcoholism Increase.—An increase in the death rate in New York state for the first seven months of 1922 was recently reported by the health department. The rate up to the end of July last was 13.9; while a year ago the same period showed a rate of 12.7, a difference equivalent to 7,083 deaths. Deaths from alcoholism showed a marked increase as compared with last year, numbering 172 as against 83. The greatest increase in deaths from this cause was in New York City.

Hospital News.—Mr. Boris Fingerhood has been appointed superintendent of the United Israel Zion Hospital, which recently opened at Brooklyn.——The Suffolk Board of Supervisors adopted a resolution, recently, to complete the infirmary building of the county tuberculosis sanatorium at Holtsville, at a cost of $85,000 and to erect a building for the employees, at a cost of $7,000.——A new mental clinic, the fortieth now in operation under state hospital auspices, has been established in Batavia, by the Rochester State Hospital. The first clinic was held, October 9, with two physicians and a social worker from the state hospital in charge.——The staff of the Bushwick Hospital, Brooklyn, gave their annual dinner, November 9. The dinner was the occasion of starting a campaign to raise funds toward the building of a new home for the Jewett Training School for Nurses.

Society News.—An extensive program has been arranged by the Rochester Academy of Medicine for the coming winter. Among the speakers will be Drs. Haven Emerson and Henry Dwight Chapin, both of New York; Prof. F. G. Banting, University of Toronto, and Dr. Joseph Earl Moore, Johns Hopkins Hospital, Baltimore, delivered the first lecture, November 22, on "A Clinical Study of the Course of Syphilitic Infection as Modified by Pregnancy."——Prof. John R. Murlin, Ph.D., University of Rochester, addressed a special meeting of the Rochester Medical Association, November 10. His subject was "Progress in the Preparation of Pancreatic Extracts for the Treatment of Diabetes Mellitus."——At a meeting of the Medical Society of Queen's County, recently, a resolution was passed recommending that every physician, attending, associate or complementary, at a hospital shall become a member of the society.——The American Society for the Control of Cancer, in connection with National Cancer Week, held a meeting under the auspices of the New York Academy of Medicine, November 18. Dr. Howard Canning Taylor spoke on "Cancer from the Educational and Public Health Standpoint."

New York City

Reception for Serbian Reconstruction Workers.—The International Educational Committee, of which Dr. Rosalie Slaughter Morton is founder and chairman, gave a reception on the afternoon of November 12, at the Hotel Leonori, to Dr. Alice Barlow-Brown of Winnetka, Ill., and Dr. Gladys Pateick Shahovitch of Los Angeles to welcome them home after five years' war and reconstruction work in France and Serbia.

Personal.—Dr. Henry Heiman has been appointed consulting pediatrician to the Mount Sinai Hospital, New York.——Dr. Jacob Sobel has been appointed attending pediatrician to the Beth David Hospital, New York.——A testimonial dinner will be given for Dr. Ernest R. Birkins, at the Hotel Astor, January 20, to commemorate the completion of his forty-fifth year of service with the public schools of Manhattan.——Dr. Joseph B. Stenbuck sailed recently on the *Pittsburgh* for Bremen. He will take graduate courses in Berlin.

Appointments at Medical College and Hospital.—The following appointments have been made at the New York Homeopathic Medical College and Hospital: dean, Israel S. Kleiner; emeritus professor of ophthalmology, Dr. George W. McDowell; emeritus professor of surgery, Dr. William Ted Helmuth; emeritus professor of pathology, Dr. Louis Heitzmann; professor of bacteriology, Dr. Archibald McNeil; professor of ophthalmology, Dr. Edwin S. Munson; head of the department of surgery, Dr. William Francis Honan, and head of the department of gynecology, Dr. Joseph H. Fobes.

Follow-Up of Typhoid Cases.—In 1921, the department of health initiated the procedure of following up recovered typhoid fever patients two months after the termination of quarantine, in order to discover any carriers who might have been missed in previous examinations. Since that time, in 219 cases that were terminated according to the usual routine, and in which negative stools had been obtained, four persons were found with positive stools. The department of health considers this a clear indication of the necessity of making this procedure a regular part of the routine for the detection and control of carriers.

Report of Special Committee on Whooping Cough Vaccine.—A committee composed of Dr. J. J. Blumenthal, Dr. Robert J. Wilson, Dr. Louis I. Harris and Dr. William H. Park, appointed by the health commissioner to consider the value of whooping cough vaccine, has submitted its report. It was the judgment of the committee that a definite pronouncement on the question of its preventive value should be deferred until a special study, which has just been inaugurated by the bureau of laboratories, is completed. The report states that, in the judgment of the committee, pertussis vaccine seems to be a symptomatic remedy which has appeared to have some value in abating the severity and frequency of the paroxysms. The committee is unanimous in its recommendation that whooping cough, in view of its serious complications and sequelae, and its high mortality rate, should be regarded as a major communicable disease, and that parents and physicians should be instructed and urged to recognize that strict quarantine is as essential in this disease as in other major communicable diseases.

Hospital News.—A clinic for the treatment of goiter and other diseases of the thyroid gland has been opened at the New York Hospital.——The Laura Franklin Hospital, one of the institutions consolidated in the new Fifth Avenue Hospital, has been sold by the latter institution to Dr. Morris Less, who plans to remodel the building and conduct a pri-

vate sanatorium there.——At a recent meeting of the state board of charities, the incorporators of the Community Eye and Ear Infirmary, who have applied for a license to establish a dispensary at 283 East Broadway, were given a hearing. Opposition to the plan has been voiced by the Medical Society of the County of New York, Beth Israel Hospital and the Good Samaritan East Side Dispensary, on the ground that another dispensary is not needed on the East Side. The decision of the New York Federation of Jewish Charities will be accepted by both sides, it is announced.——A syndicate of New York physicians has purchased the southeast corner of One Hundred and Third Street and Fifth Avenue, as a site for a private hospital, to be erected at a cost of $1,500,000. The syndicate will incorporate under the name of the Physicians' Medical Hotel Company. It proposes to erect an eight-story fireproof structure of the hotel type, containing all the latest features and equipment of a private hospital of the highest order. Only pay patients will be admitted to the institution.

NORTH CAROLINA

New Milk Rules Passed.—The Carteret County Board of Health has recently issued strict milk rules and regulations which are to be rigidly enforced, beginning December 1. In order that the dairymen and farmers may be able to comply with the regulations, free tuberculin tests will be made by the state veterinarian.

NORTH DAKOTA

Mental Hygiene Survey.—During August, September and October, the National Committee for Mental Hygiene was engaged in conducting a mental hygiene survey throughout the state. Following these surveys, which have been made in several states, recommendations are made to the governor and legislature for appropriate action. Dr. Thomas H. Haines, consultant for the National Committee for Mental Hygiene, and Ward G. Reeder, assistant professor of school administration in the Ohio State University, with a psychologist and two social workers, conducted the work in North Dakota.

OHIO

Narcotic Thieves Raid Physicians' Offices.—The offices of Drs. James B. Poling and Enos G. Burton in the American Bank Building, Lima, were ransacked recently by narcotic thieves. Entrance was gained from the roof of an adjoining building. The same offices were ransacked several weeks ago.

Physicians Indicted by Grand Jury.—Indictments charging five Toledo physicians with violation of the Harrison Narcotic Law were returned by the federal grand jury, October 30. The indicted are: Addison D. Hobart, James C. Price, John A. Gardner, Charles H. Mills and Peter E. Kern. All are charged with illegal disposition of narcotics. Dr. Samuel J. Derbyshire, Lima, was indicted on the same charge.

Social Service Directory for Cincinnati.—The Helen S. Trounstine Foundation has just issued a handbook of Social Service Research of Cincinnati and Hamilton County. Information is supplied concerning 264 organizations functioning for the good of the public. The handbook was prepared by Miss H. D. Stecker and Miss E. L. Remelin. Complete information is furnished relative to hospitals, dispensaries, number of beds, available hours, type of service given and similar matters.

OREGON

Personal.—Dr. George Rebec has gone to Europe for one year.——Dr. Alexander Reid, Stanfield, has been appointed railroad physician in the absence of Dr. Raymond Logan, who has gone to Chicago for graduate study.——Following the resignation of Dr. Abram L. Houseworth, Marshfield, who moved to Los Angeles, Dr. Edward B. McDaniel, Portland, was elected president of the state medical association for 1924.

PENNSYLVANIA

Premedical Course Discontinued.—The Lafayette College of Liberal Arts faculty has voted to discontinue the two-year premedical course, but has announced that those students who entered this year will be able to continue their premedical work through the second year. No new men will be enrolled. This step was taken because of the crowded condition of the college, and to give vacancies in the freshman class for those who expect to attend for four years.

Hospital News.—The new nurses' home was formally turned over to the Citizen's General Hospital, New Kensington, October 24. This building, which was erected at a cost of $125,000, was the gift of Mr. and Mrs. Kinlock. The citizens of New Kensington in a six-day campaign raised $175,000 in addition for the institution, of which $80,000 will be used to liquidate indebtedness and $70,000 for an endowment fund.——Representatives of 123 welfare agencies of Dauphin County, at a joint meeting in Harrisburg, October 12, unanimously adopted a resolution endorsing the proposition for a county tuberculosis hospital.——A prenatal clinic was established, October 19, at the Williamsport Health Center, under the direction of the state department of health. Dr. John B. Nutt is in charge of the clinic.

Police Surgeons' Convention.—Physicians and surgeons of the police and fire departments of nearly every large city in the country attended a convention at the Bellevue-Stratford, November 20-21. The purpose of the convention was to establish a national association of such medical directors in order that uniform methods may be attained in improving the health conditions of all the police and firemen in cities of the first class, such as Philadelphia, New York, Chicago, Detroit, Cleveland, Kansas City, San Francisco and New Orleans. The new methods will also be used by the doctors in charge of prisoners. Dr. Hubley R. Owen, chief surgeon of the Philadelphia Police Department, who proposed the "national association," succeeded in getting the council to appropriate $1,000 for the purpose of bringing the convention to Philadelphia.

Philadelphia

Aesculapian Club of Philadelphia.—The 1922 Traditional Banquet was held, November 16, at "Le Trianon," the club house having been found inadequate for the accommodation of the large number that attended the banquet.

Personal.—Dr. Alfred G. Stengel, professor of medicine, University of Pennsylvania, addressed the Rochester (N. Y.) Medical Association, November 1, on the subject of "Treatment of Compensated Cardiac Disease."——Dr. Edward B. Krumbhaar, Philadelphia, has been made a corresponding member of the Mexican Society of Biology.——Dr. Israel Bram, Philadelphia, will deliver a lecture before the Brooklyn (N. Y.) Cardiological Society, November 27, on "The Heart in Graves' Disease."——August Krogh, professor of zoophysiology in the University of Copenhagen, winner of the Nobel prize in Physiology and Medicine in 1920, accepted an invitation of the acting provost and trustees of the University of Pennsylvania to deliver two lectures before the medical schools of the institution, November 14 and 15. The lectures were held in Houston Hall, and were illustrated by lantern slides and moving pictures. The subjects discussed were "The Nervous and Hormonal Control of Capillary Contractility" and "The Exchange of Substances Through the Capillary Wall."

TEXAS

State Rights to Compel Vaccination Upheld.—The U. S. Supreme Court upheld the courts of Texas, November 13, in the case of Rosalyn Zucht, who brought suit against San Antonio officials after she had been excluded from school owing to her not being vaccinated. Judge Brandeis held that it is within the police power of a state to provide for compulsory vaccination, and that this power could be delegated to a city for the promulgation of regulations under which the law should become operative.

Association News.—At the annual meeting of the Texas Surgical Society, held recently, Dr. Frank C. Beall, Fort Worth, was elected president; Drs. Charles S. Venable, San Antonio, and George V. Brindley, Temple, vice presidents; Dr. Harold L. D. Kirkham, Houston, secretary, and Dr. John B. Smoot, Dallas, treasurer. Dr. John T. Moore, Houston, presided at the meeting.——The Texas Methodist Hospital Association was recently organized for the purpose of taking charge of the hospital movement in the Methodist Church as far as it relates to Texas. The Rev. Walter J. Johnson, Dallas, was elected president of the organization, and Dr. John W. Torbett, Marlin, treasurer.——The Tri-State Medical Association (Arkansas, Louisiana and Texas) will hold its annual session in Marshall, Texas, December 5-6.——A series of clinics will be held in connection with the meeting of the Southwest Texas District Medical Society, in January, it is announced by the staff of the Robert Green Memorial Hospital, San Antonio. A complete program will be published later. Morning clinics will be divided among the various hospitals and the afternoon sessions will be held at the Green Memorial Hospital.

UTAH

Health Clinics.—At a meeting of the executive committee of the Utah Public Health Association, November 9, Dr. J. R. Morrell, Ogden, Senator Leroy Dixon, and Dr. Robert J. Sears of the University of Utah, were appointed to a committee to consider the work of the traveling health clinic as a basis of determining the extent of tuberculosis in the state. It is expected that a state sanatorium will eventually have to be provided for tuberculous patients.——Diphtheria clinics will be conducted every Saturday morning in Salt Lake City from now on, it is announced, under the auspices of the city board of health. The clinics will be held in the Emergency Hospital.

VIRGINIA

Personal.—Edgar Sydenstricker, Lynchburg, has been appointed director of all health activities under the control of the League of Nations, it is announced. Mr. Sydenstricker was formerly editor of the Lynchburg *Advance*, and at present is statistician of the U. S. Public Health Service.——Dr. Perkins Glover, Arvonia, has been elected president of the Buckingham County Medical Society.

Virginia Leads in Births.—The state bureau of vital statistics has just completed its annual report, in which Virginia registered 70,299 births in 1921, the largest number ever recorded for that state. This is 4,289 in excess of 1920 and 9,806 more than were registered in 1919. The rate for 1921 was approximately 30 per thousand population, as compared with a rate of 24.3 for the whole registration area of the entire country.

WASHINGTON

Personal.—Dr. Alice M. Smith, Tacoma, has been appointed a member of the state institutional board of health under the state code, which decrees that one member of the board shall be a woman.

WISCONSIN

Fine for Violation of Harrison Narcotic Law.—It is reported that Dr. Albert F. Ottow, Beloit, was fined $500 in the United States district court, Madison, November 17, when he pleaded guilty to issuing narcotic prescriptions to addicts. The judge stated that only the fact that he had never been arrested on a similar charge averted a more severe penalty.

CANADA

Academy of Medicine of Toronto.—The annual academy dinner was held, October 2, the night preceding the first stated meeting. Nearly 200 fellows attended. President W. H. Harris delivered his inaugural address following the banquet. A memorial was presented by Dr. Hugh B. Maitland on the death of Prof. J. J. MacKenzie. Dr. Frank C. Neal, Peterborough, president of the Ontario Radiological Society, also gave an address.

Personal.—Dr. Beverly Hannah, for many years on the staff of the Hospital for Sick Children, has been appointed physician-in-chief of the Riverdale Isolation Hospital, Toronto.——Dr. Frank H. Pratten has been appointed medical superintendent of the Queen Alexandra Sanatorium, Byron, East Middlesex.——Dr. Fred L. Grasett has recently returned from England to his home in Toronto.——Dr. George H. Stevenson has been appointed assistant superintendent at the Ontario Hospital, London.——Dr. Jennie Smillie was appointed a delegate to the International Conference of Medical Women in Geneva.——Dr. Elizabeth L. Kiteley has been appointed medical inspector of rural schools, with residence at St. Catharines.——Dr. James W. Ross has returned to Toronto, following three years at the Mayo Clinic, Rochester, Minn.——Gen. John T. Fotheringham, M.D., returned to Toronto in October, following a tour of the United States and Canada.——Dr. Sylvester E. Charlton, mayor of Galt, has been elected president of the Union of Canadian Municipalities.——Dr. Samuel Johnston, chief of the anesthetic department of the Toronto General Hospital, and president of the American Inter-State Association of Anesthetists, read a paper at the First Congress of Anesthetists held in Columbus, Ohio, October 30-November 1.——Dr. Lorne F. Robertson, Stratford, has returned from Toronto, where he went for surgical treatment for a throat infection.——Dr. Reginald Morton, London, England, graduate of Trinity Medical College, Toronto, gave the scientific address before the first stated meeting of the Academy of Medicine, Toronto, October 3, on "Recent Advances in Roentgen-Ray Therapy."

GENERAL

American Sanatorium Association.—The midwinter meeting of the association will be held in Buffalo, December 8-9. This meeting will be devoted to questions of heliotherapy, roentgen-ray and artificial light therapy.

National Tuberculosis Association.—It is announced by the association that a banner and certificate of merit will be awarded to the state which makes the highest per capita seal sale for 1922. The contest is so arranged that every state has an equal chance to win.

Trainmen Fight Tuberculosis.—The Brotherhood of Railroad Trainmen started a nation-wide campaign against tuberculosis, November 11. Each member of the union, which has a membership of 180,000, is paying 25 cents a month to the antituberculosis fund. This provides about $500,000 a year for the campaign.

Tour to the A. M. A. Session.—Dr. Malcolm C. Rose, 152 West Forty-Second Street, New York, is chairman of the touring committee of the Medical Society of the State of New York, which is arranging a trip to California for members and friends of the society. This tour will be scheduled to take place during the Annual Session of the American Medical Association in San Francisco, June 25-29.

Suit Brought Against Prohibition Law.—On November 18, the Association for the Protection of Constitutional Rights, a group of physicians, brought suit against what they believe and are advised by counsel as an encroachment by Congress not authorized by the prohibition amendment. The action is to determine whether it is within the power of Congress to authorize the limitations placed by the national prohibition act and the regulations made thereunder on the right of a patient, on the advice of a physician, to avail himself of alcoholic liquors for the relief and cure of disease.

American Committee for Vienna Relief.—The treasurer, Prof. A. C. Noe, University of Chicago, has requested that, if any one desires to contribute money for the relief of the destitute middle class in Austria, he will accept it and transmit it without expense to the Distribution Committee in Vienna. The help of the American Relief Administration and that of the Quakers have been withdrawn, it is announced. Discarded clothing and shoes will be accepted for transportation by Dr. Karl Koessler, University of Chicago, 5729 Ellis Avenue, Rickett's Laboratory, Suite 21-25, Chicago.

Near East Relief.—The American Red Cross has purchased from the War Department 100 Lister water purification bags to be sent to the Near East for use in the refuge zone in Greece. The consignment will arrive in Greece coincident with the arrival of Dr. R. M. Taylor, Red Cross medical director of the Near East Relief. The consignment, in addition to the bags, consists of 10,000 tubes of lime, 1,000 yards of rubber sheeting, 1,500 pounds of enamel ware, 98 tons of drugs and medicines, 500 pounds of surgical instruments, 1,000 pounds of medical tablets and 1,300 pounds of gauze and plasters; valued at $18,000.

State Legislation for Vision Conservation.—The National Committee for the Prevention of Blindness, Inc., announces that if any state legislation is needed which provides either directly or indirectly for the prevention of blindness and the conservation of vision, steps will be taken at once to formulate bills and to arouse public opinion in their favor, before the legislatures in some forty states meet, in January. The national committee for the prevention of blindness will be glad to be of service to any state or local organization considering state legislation and will send the field secretary to any state seriously contemplating such legislation, h.. time permitting.

Retirement of Government Employees.—A bill recently passed the Senate, providing that every government employee retiring under the civil service law shall be examined every year after the date of his retirement under the direction of the Commissioner of Pensions, by a medical officer of the United States, to ascertain the nature and degree of his disability. If examination shows that the annuitant has recovered and is physically able, he shall again be placed in the government service. The proposed law also provides that, in case retired government employees fail to appear for medical examination after receiving instructions to do so, their annuity shall cease.

National Research Council's Medical Fellowships.—Early this year the Rockefeller Foundation and the General Education Board jointly pledged to the National Research Council the total sum of $500,000, payable annually through a period of five years in sums not to exceed $100,000 a year,

for the administration of medical fellowships through its division of medical sciences. A special board for administering these fellowships is composed of the following members, with the chairman of the division of medical sciences of the National Research Council (at present, Dr. F. P. Gay, professor of bacteriology, University of California) as chairman, ex officio; David L. Edsall, professor of medicine and dean of the medical school of Harvard University; Joseph Erlanger, professor of physiology, school of medicine of Washington University, St. Louis; G. Carl Huber, professor of anatomy and director of the anatomic laboratories, University of Michigan; E. O. Jordan, professor of bacteriology, University of Chicago; W. G. MacCallum, professor of pathology and bacteriology, Johns Hopkins University; Dean Lewis, professor of surgery, Rush Medical School, Chicago; Lafayette B. Mendel, professor of physiologic chemistry, Yale University, and W. W. Palmer, professor of medicine, Columbia University. This board has outlined certain regulations to govern decisions in connection with the appointment of fellows and the method and place of their work. The most essential points decided on are:

1. The fellowships are designed primarily for research as fundamental to a teaching career in one of the medical sciences. For the latter reason, it is prescribed that the fellow must work where facilities for, but not obligations in, teaching are afforded.
2. The fellowships are for full time, and basal salaries of $1,800 for unmarried men and $2,300 for married men have been determined. Salaries in either of these grades may be larger than the minimum, depending upon the number of dependents and the locality chosen by the candidate for work.
3. The place of work and the subject chosen for investigation are determined by the candidate with due consideration for the feasibility of the plan proposed. It has been decided that the work may be carried out either in this country or abroad.

The first fellows have been appointed and are now at work. In spite of the fact that the funds for these fellowships generously donated by the Rockefeller Foundation and General Education Board were not available and that announcements concerning the fellowships could not be made until relatively late in the year, numerous applications have been received and twenty-six candidates have already been accepted. The work is now being carried out in various medical centers, as follows:

Harvard	7	Iowa	1
Columbia	3	Northwestern	1
Chicago	3	Cornell	1
Hopkins	3	Yale	1
Cincinnati	2	Leipzig	1
Ohio	1	N. Y. Post-Graduate Hospital	1
California	1		

LATIN AMERICA

Bubonic Plague Holds Ship.—Discovery of a case of bubonic plague aboard the Spanish transatlantic liner *Barcelona* resulted, November 10, in the vessel, with 264 passengers aboard, being quarantined at Mariel for one week.

Brazilian Journal Changes Editor.—Dr. J. P. Fontenelle has become editor of *Folha Medica* of Rio de Janeiro. The assistant editors are Drs. Gustavo Lessa and Carlos Sa. Improvements in appearance and contents are promised by the new editor.

Dental Clinics in Montevideo.—Four dental clinics are now in operation at Montevideo, according to Dr. R. Schiaffino, chief of the Uruguay school medical corps. During the year 1921, 1,870 schoolchildren were treated. So far, treatment has been limited to pupils admitted during the year, not more than 12 years of age.

Personal.—Dr. Luis V. Velasco has been appointed dean of the Salvador Medical School. Dr. Velasco will also represent his country at the Latin-American Medical Congress in Havana.——Dr. Carlos Guillén has been appointed director general of the Rosales Hospital with full charge of all matters.——Prof. F. Krause, of the University of Berlin, is now in Mexico City, giving a course of lectures on nerve surgery.——Dr. F. Castillo Nájera has been appointed Mexican minister to China. He left for his post via San Francisco.

Brazilian Centennial Exposition.—The Medical Department of the U. S. Army has on exhibition at the Brazilian Centennial Exposition, held at Rio de Janeiro, a display of military medical specimens recently prepared and shipped at the direction of Surgeon-General Ireland. The exhibit is housed in the War Department section of the United States building and is under the immediate charge of Major Roland F. Walsh of the Army. The exhibit consists of certain pathologic specimens, four mounted specimens showing gunshot wounds, and four mounted specimens of influenzal pneumonia, statistical charts, photographs of pathologic specimens and a transfusion set from the Army Medical Museum; one battalion dispensary equipment and six laboratory chests from the Medical Supply Depot, Washington, D. C.; views of the hospital and assembled personnel and photographs and charts illustrative of the various activities, particularly physiotherapy, occupational therapy and war surgery, from Walter Reed General Hospital; pamphlets, photographs and charts from the Army School of Nursing showing the courses, methods of teaching and work of the students; the various graphs and charts from the office of the Surgeon-General, relating chiefly to the composition of the medical department units and their activities in the theater of operations. The pathologic specimens are duplicates and will be donated to the Oswaldo Cruz Institute at Rio de Janeiro at the close of the exposition.

The American Conference on Leprosy.—At the invitation of the government of Brazil, this conference was held at Rio de Janeiro, in October, with the minister of foreign affairs presiding. Paz Soldán reported on conditions in regard to leprosy in Peru; Foresti in Uruguay; Aberastury in Argentina; Carbonell in Venezuela, and Torre Diaz in Mexico. Denney described the organization of the leper asylums in the United States. J. I. Uribe spoke on behalf of Colombia, Pérez Cisneros of Cuba, Estrada Coelho of Ecuador, J. Ricalde of Paraguay, Carlos Faller of Guatemala and Galvao Bueno of Costa Rica. The *Brazil-Medico* gives a number of conclusions voted by the assembly. One was to the effect that these conferences for study of leprosy should be held every four years, and that the various governments should be urged to organize on a solid basis the medical and social care of lepers and their families, appropriating funds for that purpose. The conference voted in favor of leper colonies but also of isolation in the home if it can be made effectual. The colonies must be equipped to conform to modern and humanitarian views for the physical and moral welfare of the lepers. National centralization of the oversight over leprosy was advocated and the systematic application of the most approved methods of treatment. Chaulmoogra oil esters were commended for prolonged use, but their employment was not endorsed as a definite therapeutic procedure. Search for a prompt and positively effectual remedy must be continued, and medical schools must include the subject of leprosy in their teaching; how to recognize, treat and prevent its spread. This conference on leprosy was proposed by the second South American medical congress held at Montevideo last year. Dr. C. Chagas, chief of the national public health service of Brazil, was president of the committee of organization, assisted by Dr. E. Rabello, inspector of the national prophylaxis of leprosy, and Dr. O. Silva Araujo, secretary of this service.

FOREIGN

Physicians Needed for the Belgian Congo.—Our French exchanges state that the Belgian authorities are asking for French physicians to take service in the Belgian Congo. They want physicians who have taken the course in tropical medicine, and they offer a 40,000 francs salary.

British Medical Association.—The first council dinner of the association was given, October 25, with Dr. R. A. Bolam in the chair. The toast of the commonwealth was given by Sir William Macewen, president of the British Medical Association, and acknowledged by Sir Anthony Bowlby, president of the Royal College of Surgeons of England.

Typhoon Casualties.—The American Red Cross in China is appealing for funds following the typhoon disaster in Swatow in September, where 20,000 lives were lost. Thousands of injured are in need of medical attention and food. It is stated that it is the most serious disaster that has befallen China in recent years. Funds are needed to purchase food and medical supplies. Checks or cash should be sent to Dr. W. W. Peter, China Central Committee, American Red Cross, 4 Quinsan Gardens, or to the China Press.

The Nobel Prize.—It was announced last week in THE JOURNAL that Prof. Albert Einstein, of the University of Berlin, had been awarded the Nobel prize in physics for the year 1921. Since then, it has been announced that Prof. Neils Bohr, of the University of Copenhagen, has received the prize in physics for 1922. The Nobel prize in chemistry for the year 1921 has been awarded to Prof. Frederick Soddy, of the University of Oxford, and for the year 1922 to Prof. F. W. Ashton, of the University of Cambridge. It is announced from Stockholm that since it has been decided not to award the Nobel prize in medicine for 1921, the prize will be added to the special medical fund. The 1922 prize

is reserved for next year. The prize this year amounted to 122,500 Swedish kronor, approximately $35,000.

Annual Meeting of French Orthopedic Society.—This was one of the numerous medical gatherings at Paris in October. The attendance was large and the discussions spirited. Seven French members were elected and five from other countries, Dr. Audet of Canada, Jentzer of Geneva, Ledent of Liége and van Neck and de Mees of Brussels. The main subject discussed was operative treatment of tuberculous vertebral disease to stiffen the spine. It was introduced by Estor of Montpellier, who had collected the experiences of seventeen French surgeons in this line. Only this small number had attempted these operations out of the 300 consulted, and the interventions totaled only ninety-one. Children of course do not require these operations, and he agrees with Roux of Lausanne, Sorrel, Calvé and others that they should not be attempted for adults until the lesion is cured, generally about the third year, as they are merely a "safety bolt against recurrence."

Copenhagen Medical Society Celebration.—At the recent celebration of the one hundred and fiftieth anniversary of the founding of the Copenhagen Medical Society, a number of honorary members were elected, six in Denmark, five in other Scandinavian countries and twelve elsewhere. The latter group includes Prof. Abraham Flexner of New York and Dr. W. J. Mayo of this country, Sir James Mackenzie and Dr. John Chiene of Scotland, Dr. A. Calmette and Dr. P. Marie of Paris, Dr. A. Depage of Belgium, Dr. H. Sahli of Switzerland, Dr. W. Einthoven of the Netherlands, Dr. H. Kümmel of Hamburg, Dr. M. Rubner of Berlin and Dr. A. Eiselsberg of Vienna. The Danish honorary members elected are Profs. B. Bang, O. Bloch, C. J. Salomonsen, C. O. Jensen, A. Krogh and S. P. L. Sörensen. Those in the other Scandinavian countries are Profs. A. Holst of Christiania, K. Petrén of Lund, J. Berg of Stockholm, R. Tigerstedt of Helsingfors and G. Magnusson of Iceland. All are listed as professors except Calmette, who is director of the Paris Pasteur Institute, and Dr. Mayo. The celebration included a collection of historical portraits, a cantata written for the occasion, a reception at the city hall, an address by Rovsing, president of the Danish Medical Association, and the gala meeting where Scheel, the president of the Copenhagen society, delivered the historical review of the one hundred and fifty years, and read some of the numerous congratulatory telegrams received from near and far. The addresses are reproduced in the *Hospitalstidende* for October 11.

Personal.—Dr. K. C. Middlemiss has been appointed lecturer in infectious diseases in the Victoria University, Manchester, England.——Prof. W. W. Stifler has accepted an appointment from the China Medical Board of the Rockefeller Foundation as visiting professor of physics at the Canton Christian College for the academic year 1922-1923. He has been connected with the Peking Union Medical College since its organization, as head of the physics department, and dean of the Premedical School in Peking. Following his year in Canton, Professor Stifler will return to the United States.——Dr. Robert Platt has been appointed demonstrator in pathology and bacteriology at the University of Sheffield, England.——Dr. E. L. Gros, chief of the American Hospital, Paris, with Drs. C. O. Mailloux and M. L. King, sailed for Cherbourg on the *Olympic*, November 4.——Drs. Vincent Van Peski, Louis Herly, T. H. Beer and Prof. H. J. Hamburger sailed, November 4, for Rotterdam.——Sir Alfred Keogh, M.D., was awarded the gold medal of the Institution of Mining and Metallurgy on the occasion of his retirement from the rectorship of the Imperial College of Science and Technology, "in recognition of his great services in the advancement of technological education."——Dr. Michael Francis Cox was elected president of the Royal College of Physicians of Ireland, recently.——Sir A. Griffith-Boscawen is the newly appointed minister of health of England.——Sir David Wallace has been reelected president of the Royal College of Surgeons of Edinburgh.——Dr. Thomas Beaton, senior assistant physician of the Bethlehem Royal Hospital, London, is visiting America at the suggestion of Sir Frederick Mott to investigate the methods of the mental hygiene organizations in this country. England has recently established a national council of mental hygiene.

Deaths in Other Countries

Sir James Galloway, senior physician to Charing Cross Hospital, London; veteran of the Boer and World wars; author of several novels; died, October 18.——Dr. **Edward C. Hort,** bacteriologist, October 14, at Cannes, France.——Dr. **Herbert Langton,** October 12, at Brighton, England, aged 61.——Dr. **Charles H. Evans,** late R. A. M. C., in London, October 21.——Dr. **Bratul Kumar Ghosh,** a Hindu practitioner of Sheffield, England.——Lieut.-Col. **Patrick Murphy,** Bombay Medical Service (retired), was killed in the sack of Smyrna by the Turks, September 13, aged 78.——Dr. **Roberto Wernicke,** professor emeritus at the University of Buenos Aires, who introduced modern methods of experimental medicine and bacteriology into Argentina, one of the founders and a president of the Argentine Medical Association.——Dr. **Emil Holmgren,** professor of histology at the Karolinska Institut at Stockholm, author of nearly 100 works on this specialty and other scientific subjects and of the large "Manual of Histology" published in 1920, aged 56.——Dr. **Christian Sibelius,** professor of psychiatry at Helsingfors, who has published much on mental disturbances from poisonings, spinal cord tumors, etc. The *Finska Handlingar* calls him the leading psychiatrist of Finland; aged 56.——Dr. **E. de Albertiis,** of the surgical clinic at the University of Naples, aged 45.——Dr. **Marcelino Mendoza,** of Mexico City, former army physician, professor of hygiene in the Army Medical School and author of a textbook on this subject.——Dr. **Karl Weil,** professor emeritus of surgery at the German University at Prague, aged 78.——Dr. **Ezequiel Dias,** director of the branch at Bello-Horizonte of the Instituto Oswaldo Cruz, of which he was one of the founders.

Government Services

Survey of Biologic Production

The U. S. Public Health Service has begun a study of the methods used in the United States in the manufacture of biologic products. Passed Assist.-Surg. W. T. Harrison started a tour of the country this week to investigate this subject, going to Toronto, Canada; Boston; New York, Otisville and Pearl River, N. Y.; New Brunswick, N. J.; Philadelphia, Swiftwater, Glenolden, Ambler and Mariette, Pa.; Asheville, N. C.; Buffalo, and Baltimore.

Camp Held for R. O. T. C.

Three hundred and eighty-eight students of the medical department Reserve Officers Training Corps attended the camp held at the Medical Field Service School at Carlisle Barracks, Pa., according to information just given out by the Surgeon-General of the Army. Units from most of the medical schools of the country were represented. The list of attendance follows:

Name of College, State and Unit	No. of Students
Cornell University Medical College, N. Y.—medical	21
Albany Medical College, N. Y.—medical	3
University of Pennsylvania School of Medicine, Pa.—dental	22
Georgetown Univ. School of Medicine, Washington D. C.—medical	2
George Washington Univ. Med. School, Washington D. C.—medical	20
Jefferson Medical College of Philadelphia, Pa.—medical	26
Johns Hopkins University Medical Department, Md.—medical	5
Vanderbilt University Medical Department, Tenn.—medical	31
Western Reserve University School of Medicine, Ohio—medical	3
Ohio State University College of Medicine, Ohio—medical, dental, veterinary	28
Rush Medical College, Ill.—medical	3
Northwestern University Medical School, Ill.—dental	20
State University of Iowa College of Medicine, Iowa—medical, dental	56
University of Minnesota Medical School, Minn.—medical, dental	62
St. Louis University School of Medicine, Mo.—medical, dental	57
Kansas State Agricultural College, Kansas—veterinary	11
Baylor University College of Medicine, Texas—medical	1
Washington University School of Medicine, Mo—medical	17
Total	388

U. S. Veterans' Bureau News

The medical division has recently issued a manual entitled *Hygiene and Efficiency for the Tuberculous,* by the assistant clinical director. This manual was prepared as a preliminary study and is to be used as a working basis for a course in hygiene for the tuberculosis hospitals and vocational schools.——A large number of special male employees in physiotherapy are being employed by the medical division to do work, especially in hydrotherapy, at the various clinics and hospitals. These men are chosen from the Civil Service eligible list of reconstruction assistants.——A conference of all subdistrict managers and medical officers of District 8 was held, November 16-18.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Oct. 30, 1922.

Epidemic Encephalitis

The ministry of health has issued an important report on epidemic (lethargic) encephalitis, for which one of its medical officers, Dr. Allan Parsons, is mainly responsible. The immense mass of material that has accumulated in the comparatively short time since the disease was first observed in this country has been garnered and lucidly arranged. In an introduction, Sir George Newman, principal medical officer of the ministry, states that the report will probably be of the greatest value as a storehouse of statistical information, and that in it have been collected facts and figures that cannot be found in any similar report. The possible relations to influenza, poliomyelitis and "epidemic hiccup" are fully discussed. The general opinion regarding the low infectivity of the disease is confirmed, and the transmission from the mother to the new-born child is noted. Difficulty in differentiating the condition from tuberculous meningitis, cerebral tumors and cerebral hemorrhage is mentioned. A section on the pathologic anatomy is contributed by Dr. MacNalty. The lesions are held to be definitely inflammatory, consisting of cellular infiltration of the perivascular lymphatic sheaths and of certain areas of gray matter, particularly in the pons and basal nuclei. The view is adopted that the disease is due to a filtrable virus. Dr. Perdrau contributes a chapter on the cerebrospinal fluid. He considers that in the acute stage the changes are pleocytosis, varying with the severity of the disease, and a small increase in the total protein content, not keeping pace with the pleocytosis (dissociation cyto-albuminique); the cells present are lymphocytes. In the subacute or chronic stage, the fluid is virtually normal.

The Church and Psychotherapy

At the church congress held at Sheffield, Dr. Chandler, lately bishop of Bloemfontein, described the church system of therapeutics as consisting of the sacramental rites of confession, unction or the laying on of hands, and communion. Physicians had made the criticism that such healing was illusory and superficial, dealing only with symptoms and not penetrating to deep underlying moral causes. In many functional nervous disorders, there was an underlying moral cause, a repressed complex resulting from some moral struggle. He believed that the cause ought to be dealt with by a skilled confessor before the symptoms were touched at all. The priest in confession ought to be able to supply, with equal effectiveness and under more rigorous safeguards, the services which the psychanalyst strove to render. It was claimed that psychanalytic treatment differed from spiritual direction in securing a more complete and radical cure, so that repetition was not necessary. This might be true in the case of sudden violent and emotional shocks, in which the struggle between instinct and the ethical code had driven the instinctive reaction underground and produced a neurosis. In such cases, of which war shock was a typical instance, the reassociation or breaking into consciousness of the repressed complex might be all that was required. But, in the more usual cases, there was necessity for repeated treatment, in the way either of precaution or of cure, and this was best done by the sacrament of confession. Afterward, the physical symptoms might well be treated more directly by the further sacramental rite of unction or of the laying on of hands. The reconsecration of the body to the Divine which was thus effected came as a natural and proper sequel to the absolution previously received. Finally, the whole nature of the man was strengthened spiritually and bodily, and built up by the sacrament of communion.

THE PSYCHOLOGY OF CONVERSION

A discussion of the psychology of conversion was opened by Dean Inge, who criticized the view that conversion was always or even usually a sudden event. But Dr. William Brown, Wilde reader in mental philosophy at Oxford, argued that conversion was not primarily psychologic: it was religious, which meant that it belonged to a realm beyond the reach of psychology. Psychology could not explain the distinctive religious experience, and had to do only with the pathologic. It could explain deviations, errors and evil, but it could not explain normal appreciations, truth or goodness. He believed that it was better for conversion, or the turning away from the naturalistic to the religious, to come gradually, but there were certain temperaments in which the gradual process was impossible. In these cases, conversion was frequently preceded by melancholia, which was a sign of maladjustment and of unsolved conflicts in the subconscious. The fact that the mystical experience came suddenly did not mean that it was pathologic, although, in the case of sudden conversions, the danger of pathologic characters linking themselves to the normal process was greater. He profoundly disagreed with the psychanalytic theory that explained religious experience as a regression to the infantile attitude of mind.

French Guests of the Rockefeller Foundation

Several members of the medical faculty of the recently reconstituted French University of Strasbourg are visiting Great Britain as the guests of the Rockefeller Foundation to study the organization and teaching methods of British universities and medical schools, with a view to the coming reorganization of their own university. They will study work in their respective subjects at some of the London medical schools and at the Universities of Cambridge, Oxford and Glasgow. The arrangements are being made by the Medical Research Council on behalf of the Rockefeller Foundation. The party consists of Drs. Georges Weiss, dean of the faculty and professor of biophysics; Leon Blum, professor of clinical medicine; Paul Bouin, professor of histology; Camille Duverger, professor of ophthalmology; Pierre Masson, professor of pathologic anatomy; Maurice Nicloux, professor of physiologic chemistry, and Lucien Pautrier, professor of dermatology. The deputation has visited the United States with the same object.

National Milk Conference

A national milk conference, called by the National Clean Milk Society, supported by the British Medical Association, the Royal Institute of Public Health, the Royal Sanitary Institute and the Federation of Medical and Allied Societies, has been held at the Guildhall, London. Sir A. Griffith-Boscawen, minister of agriculture, who took the chair at the first session, said that the nations which consumed the most milk per capita were the most virile. Dr. R. S. Williams, research professor of dairy bacteriology, University College, Reading, opened a discussion on clean milk, in which he showed how the clean milk campaign had made considerable progress in certain parts of England. An animated discussion on the pasteurization of milk was opened by Prof. Georges Dreyer of Oxford. He said that though comparatively low temperatures of 60 C., or rather more, for twenty or thirty minutes would kill the bacteria in milk, it was better to have a temperature of from 130 to 135 C. for fifty or sixty seconds. The antiscorbutic vitamin would probably be the only vitamin affected, but boiling for a short time seemed to be less harmful to this vitamin than exposure to

a lower temperature for a longer time, while reheating was fatal to it. Pasteurization would not make sanitary precautions on the farm less necessary. He considered that dried milk offered the best solution of the problem of milk distribution in cities.

Dr. Charles E. North of New York said that at the infant milk stations in New York about 25,000 babies were fed on pasteurized milk from one source of supply. Since the adoption of pasteurization, the death rate of infants in New York had been reduced from 165 to 70 per thousand. Dr. Eric Pritchard said that the decrease in infant mortality in this country in the last twenty years corresponded to the increasing use of sterilizing methods, though that was not the only factor. The application of heat was the simplest method of sterilization, and the food value of milk suffered in no degree. Mr. Nathan Straus, formerly president of the New York department of health, considered the flash point system of commercial pasteurization inefficient, as the milk flowing through the chamber was not all subjected to the pasteurizing temperature. To be rendered innocuous, the milk should be retained for twenty-five minutes at from 145 to 160 F. Dr. Robert Hutchison strongly favored pasteurization. All the milk at the Great Ormond Street Hospital was pasteurized in the hospital's own plant. In the case of outpatients, in the absence of pasteurization, scalding of the milk in a double-jacketed saucepan was recommended. He had never seen a case of scurvy from the use of either pasteurized or dried milk.

Demand for Grant for Cancer Research

The Federation of Medical and Allied Services, of which Sir Berkeley Moynihan is chairman, has decided to urge the government to allocate $2,500,000 to cancer research. In moving a resolution to that effect, Mr. Lockhart Mummery, senior surgeon to St. Mark's Hospital for Cancer, pointed out that it was part of the function of the state to protect against disease. With regard to cancer, it had done practically nothing. The most recent returns showed that the disease was responsible for a mortality per annum of more than 1 per thousand. It had been calculated that cancer caused 25 per cent. of the deaths of persons more than 45. It attacked the worker rather than the drone, the strong rather than the weak, the useful rather than the useless. In his private practice, 68 per cent. of cancer patients were incurable when first seen, and in hospital 83 per cent. The obvious remedy was to find a method of prevention, but so far they had failed even to suggest one. At present, the only funds available for research had been contributed by a few generous individuals, but the sum was not nearly large enough. A government grant of $2,500,000—one twelfth of what we spent in a single day during the war—would go far toward solving the problem. This hope seems rather optimistic, for, in the aggregate, an immense sum must now have been spent all over the world on cancer research. Great discoveries cannot be made to order, however much money is provided; they require the time and the man. Subsidized laboratory workers, however able and industrious, elaborate knowledge rather than make discoveries.

Mosquitoes and Malaria in England

Malaria as an indigenous disease had not appeared in England for many years, until, during the war, a few cases were recorded in which the malady had been contracted in the country. Since 1917, the government has conducted a systematic inquiry as to the occurrence of malaria in England. The problem is concerned with relapsing cases among ex-soldiers who contracted the disease abroad, and with new cases arising in this country. The latter are usually due to the former. Since 1917, there has been a rapid decrease in both classes of these cases. During the year ending February 28, last, the cases of exotic malaria notified numbered only 1,644, as compared with 4,168 in the previous year and nearly 16,000 in 1919. These figures show that most of the patients who contracted malaria abroad during the war have recovered. The number of new indigenous cases detected in 1921 numbered only twelve, as compared with thirty-six in the previous year and 103 in 1919. Nine of them originated in a village in Kent, and the remainder in other countries toward the southeast of England.

Col. S. P. James, medical officer to the ministry of health and an authority on malaria, points out that, although the dryness of the seasons in the parts of the country concerned was without precedent, *Anopheles maculipennis* was prevalent not only in the dwellings of those who contracted the disease during the year, but also in various localities where the prolonged drought brought about abolition of breeding places. The anopheles had adapted itself to the adverse conditions. When nearly all breeding places in an area had dried up, there was a great increase in the larvae found in the few permanent breeding places that remained. Failing more suitable places, the species breed freely in rivers and in great collections of water, such as pools in abandoned quarry pits. In previous years, sources of this kind were repeatedly examined for larvae without success, but this year they appeared to act as "mosquito sanctuaries," enabling the insects to tide over the period of drought.

PARIS

(From Our Regular Correspondent)

Oct. 27, 1922.

Aid for Russian Physicians

The great distress of Russian physicians has resulted in the launching of a movement in the United States and England looking toward definite action in their behalf. In France, considerations of a political nature associated with the unfavorable outcome of the Genoa Conference, coupled with the fear that money and clothing if sent might not reach their destination, have paralyzed, for the most part, all initiative along this line. But this state of things appears to be undergoing a change. Dr. Hartmann of Paris, president of the Association for the Establishment of Medical Relations between France and Allied and Friendly Foreign Countries, stated that the association has opened a subscription in favor of Russian physicians, and the *Presse médicale* has published a special appeal for help. This appeal reproduces an extract from the report of J. A. Gorter, the delegate from the Netherlands to the Comité international des secours russes, which gives a startling account of the pitiable situation of scientific workers in Petrograd.

The Need of Medical Specialists for the Chemical Industries

In the chemical industries in France in which toxic substances are handled, industrial accidents are frequent. At the congress of industrial chemistry, recently held in Marseilles, Dr. Paul Cazeneuve of Lyons emphasized the need of specially trained physicians in these industries. But he raised the question whether recently graduated physicians, or even older physicians, are sufficiently prepared to be equal to the demands that would be made on these medical specialists. The toxic accidents are of a very special and variable character, often of a masked type that has to be ferreted out before treatment can be begun. The physician should, therefore, be specially prepared for the task by graduate courses.

The ordinary course in legal medicine is entirely inadequate, and it was for this reason that the late Dr. Brouardel recommended that special graduate courses be established in Paris, leading to the degree "médecin légiste" (medicolegal

expert). Such special courses have been established at Lille and Lyons. Toxicology occupies a prominent place in the curriculum, but it emphasizes, more particularly, criminal poisoning. In planning courses for specialists in chemical establishments, the emphasis should be quite different. They need to know rather about accidents caused by benzin, carbon bisulphid, anilin, phosphorus pentasulphid, etc. The special courses in legal medicine should, therefore, include two different types of instruction in toxicology, one designed to train the medicolegal expert, properly so called, and the other intended to prepare the "factory physician"—to use a term employed in some foreign countries. Cazeneuve referred to the work that has been done in the United States, where "the heads of large American manufacturing plants have accorded to the factory physician a prominent place in their establishments, holding, as they do, that his daily assistance and his vigilant and enlightened watchfulness are just as necessary for the increase of production as the experimental laboratory for raw materials and the laboratory for the study of technical problems."

A New Postage Stamp with the Likeness of Pasteur

At the instance of M. Paul Laffout, undersecretary of state for the mail and telegraph service, a postage stamp with the likeness of Pasteur is to be introduced.

Pulmonary Tuberculosis and the War

Dr. V. de Lavergne has just published a report on the part played by the army medical corps in combating tuberculosis during the war. From August, 1914, to June, 1919, there were 40,000 deaths from pulmonary tuberculosis (30,000 deaths throughout the provinces and 10,000 in the army). In addition, 110,000 men were discharged from the service for the same cause, making a total of 150,000 patients with pulmonary tuberculosis. Before the war, men in the service suffering from tuberculosis were *"réformés No. 2"*; that is, they were discharged without any indemnity. It was specified that, under certain circumstances, the length or the fatigues of the service might be of such a nature as to entitle one to an indemnity, but officers and men who had taken part in colonial expeditions were about the only ones to benefit by this clause. The vast majority of soldiers discharged on account of tuberculosis were dismissed without receiving an indemnity. The same conditions prevailed during the first months of the war. In March, 1915, Landouzy called attention to the injustice and danger associated with this manner of dealing with the tuberculous. Landouzy's initiative resulted in the issuance of a ministerial circular calling attention to the fact that *"réforme No. 1"*; that is, discharge with indemnity, can be granted on account of sickness contracted in the service or aggravated by it. The number of indemnities granted the tuberculous increased very much in the later years of the war, especially during the period from 1917 to the end of the war.

	Discharge No. 2 (without Indemnity)	Discharge No. 1 (with Indemnity)
From Aug. 2, 1914, to Nov. 1, 1915....	65,519	85
From Nov. 1, 1915, to March 1, 1916...	4,442	280
From March 1, 1916, to Dec. 31, 1916..	3,068	1,405
From Jan. 1, 1917, to May 31, 1917....	2,173	1,656
From June 1, 1917, to end of war.....	10,673	20,161

Later, the principle of granting an indemnity was given even wider application, ending in the law of March 31, 1919, which allows the granting of an indemnity to all ex-service men who, since the war, have contracted tuberculosis.

Oct. 1, 1920, there were 80,918 ex-service men drawing allowances for pulmonary tuberculosis. Of these 80,918 men, 49,603 had been granted a disability of from 1 to 45 per cent., 9,381, from 50 to 80 per cent., and 17,447, from 80 to 100 per cent. It can be definitely stated, therefore, that of these 80,918 men there were 17,447 who were suffering from pulmonary tuberculosis, and about 50,000 in whom tuberculosis was cicatricial, dormant or merely suspected.

The Book of Good Health

Under the title "Kitab Eç-Cih'ha," which signifies, in Arabian, "Book of Good Health," the collaborators of the Pasteur Institute of Algiers have just published a small work intended for the Mussulmans of northern Africa. The advice and the prescriptions that it contains are edited in the style that the followers of Islam appreciate: that of the *sourates* (stories of the orient); and each chapter is headed by an epigraph, a citation from the prophet. The exordium or introduction reads somewhat as follows: "In the name of Allah, who is merciful and compassionate, may health rest upon you, O reader! We have written this book to teach you to preserve the most precious of gifts—the gift which may bring you all other gifts in the world and aid you to merit the blessings from above. We have written this book to teach you to safeguard the health of your body." The titles of the seven chapters that follow are: Be clean.—Fulfil your duties as a father.—Learn how to protect yourself against contagious diseases.—The preventable diseases.—How to treat wounds.—Diseases of domestic animals.—The duties of chiefs.

The booklet makes reference to the words of Mahomet: "Cleanliness is the sword of the believer. If any evil overtakes you when you have not performed your ablutions, blame no one but yourself."

The passage of the Koran, "Allah creates beings that you know not of," has been introduced in the chapter on contagious diseases; the beings that man knows not of are the micro-organisms.

The Restorer of Youth

In a previous letter, I mentioned that the president of the congress of surgery would not permit Dr. Serge Voronoff to present to the congress his communication on grafts of the genital glands (THE JOURNAL, Nov. 11, 1922, p. 1704). Voronoff lost nothing by it, for since then the daily press has showered praises on him. The illustrated supplement of a popular journal even contained, on its first page, a picture which shows Voronoff about to perform an operation. Under the picture we read the modest legend: *"L'homme qui rend la jeunesse"* (The restorer of youth).

BELGIUM

(From Our Regular Correspondent)

Liége, Nov. 8, 1922.

Lead Poisoning

Just now, when the League of Nations has interested itself in the problem of the use of white lead, a vigorous campaign has been launched in Belgium to bring about the complete suppression of this product. Dr. Réné Sand has agreed to give the idea wide dissemination through public lectures. The labor unions recently published leaflets calling attention to the dangers of lead poisoning, and demanding the organization of a thorough system of prophylaxis against such industrial diseases. Parallel with these endeavors, medical science continues its attempts to induce the public authorities to adopt strict regulations for the lead industries.

At a recent meeting of the Academy of Medicine, Herman touched upon the matter. He regards air-borne lead poisoning as probable. These conclusions are based on (1) the presence of lead in a disk of filter paper placed in a drier above a layer of white-lead paint, and (2) the lead reaction, secured seventeen times out of twenty with slips of filter paper suspended at various heights in a room freshly painted with white lead. Herman stated that a current of air may

carry extremely minute particles of lead products, even after remaining a long time in a given spot. To intercept these minute particles, it is necessary to interpose a tampon of cotton, which retains them in the felt of its fibers, where their presence can be shown by chemical analysis. A practical conclusion of the highest importance is therefore imperative: During the use of white-lead paints, microscopic droplets containing lead are produced. These remain suspended in the air sufficiently long to allow them to penetrate the respiratory passages (mouth and nose) of the workmen.

Inoculation Against the Rinderpest, or Cattle Plague

The rinderpest, or cattle plague, is causing terrible ravages in eastern Africa at present, in spite of the vigorous campaign undertaken against it in the form of sanitary measures and inoculation with immunized blood serum. Van Saceghem, director of the Veterinary Institute of Ruanda-Urandi, asserts that macerated fecal matter of bovines that have recently recovered from the plague will prevent intestinal localizations in sick cattle to which it is administered by mouth. The product is not, however, infectious. It renders new stock immune to infection by the buccal route. In September, 1920, Nicolas and Ruijard discovered the innocuousness of excrement taken two days after defervescence from animals convalescent from the inoculated infection. A bovine to which 2 kg. was administered gave no reaction, but was not immunized. Van Saceghem sees in fresh macerated fecal matter of cured animals a new remedy against rinderpest. All that is needed, he states, is to administer daily doses to the sick cattle. He also found that the blood of infected animals, administered in fairly large doses (100 c.c.), by mouth, had a certain immunizing effect, but a subcutaneous injection of virus a month later was found to produce the disease. These facts deserve to be carefully studied, since they may have great practical value.

Inspection of Milk

The Commission de médecine vétérinaire recently issued a report in which it is held that a systematic and regular examination of milch cows, with a view to discovering, more particularly, what animals are suffering from mammitis, should be instituted. If tuberculous mammitis is found, the animal should be slaughtered. Parts of the animal affected by streptococcic mammitis should be destroyed. Milk from cows suffering from ordinary, nonspecific mammitis should not be sold to consumers until the animals fully recover. The commission likewise emphasized the conditions that must be realized in order to secure healthy milk. Absolute cleanliness should surround the milking operation. With this object in view, the commission recommends the reestablishment of competitive tests for dairies, based on scientific facts, in which cleanliness of the cows should weigh heavily in the scale of points. The water supply of cattle should be pure, being examined regularly for its bacteriologic content. Milk, having been strained and cooled immediately after it is drawn, should be protected against all contamination. It should not be subjected to any deceptive alteration, but should be furnished to the consumer just as it comes from the cow.

Physical Education

Dr. Gravelines, head of the sanitary service of the restored regions of Belgium (Eupen-Malmédy), has published the details of the plan that he has worked out for the organization, on a wide scale, of a system of physical education. He proposes that, beginning with the age of 8, every male child shall pursue a course of physical education, to be carried out under exclusive charge of instructors officially appointed and under the general control of a national institute constituting a subdepartment of the department of national defense. The courses in physical education would be regarded as preliminary to military training. Medical control bearing on such matters as the index of robustness (physical fitness), respiratory capacity, chest expansion, cardiac excitability and the power of performance would be applicable to the pupils of the higher grades, beginning with the sixteenth year. A permanent record card would set forth the medical examiners' findings for each year. These record cards will make it possible to divide the young men into classes. Their general robustness and their physical training will affect to a great extent their assignment after entering the military service.

BUENOS AIRES

(From Our Regular Correspondent)

Sept. 30, 1922.

University Conditions

Conditions at medical schools have not as yet become fully stabilized. Thus, at the Rosario school, at a meeting of the executive board, a quarrel arose between a medical student and the dean, and eggs were thrown at the assembly table. As the board suspended the guilty parties for different periods, the students went on strike. The high school pupils followed suit, and the students in the Córdoba medical school also did not attend classes for twenty-four hours. The situation is still anomalous. Without passing on the merits of the case, the president of the university has sent strong letters both to the students and to the executive board of the medical school, asking them to put an end to their conflict.

At La Plata, the students asked the dean of the medical school, a young physician, Dr. Cortelezzi, to attend a meeting called by them. Although he had been appointed at their request and he answered fully all charges made against him, this new court, typical of a world out of joint, asked for his resignation; and he complied very meekly with their request.

At Córdoba, following an ultimatum by the students, the executive board of the medical school has decided to import eight German professors. This action seems a reflection on scientists in this country, where there is no scarcity of teachers. So far, the results secured by foreign professors here have not been overly brilliant. Curiously, there prevails still, among uninformed people, a superstitious belief to the effect that scientists are made only in Germany and that competence is assured provided the appointee is a German.

In the Buenos Aires school, conditions are infinitely better, and no difficulties have been found. The harm caused by the present elective system in appointing executive boards may be thus summarized: Professors are reluctant to vote against the students' wishes, and so keep away from elections. Some professors bid for the students' good will. So far, these influences have not caused serious consequences, but in the last election two physicians were appointed who did not belong to the school. Afterward, it was shown that one of them, the secretary of the public health assistance department, was elected after appointing several interns, not according to the regulations in force but as demanded by the interns themselves. It is important to give publicity to these facts, as this revolutionary virus, now on the decline here and probably soon to die, is beginning to spread to neighboring countries—Chile, Peru and Uruguay. This agitation is one of the after-effects of the World War, and is also due to the demagogic policy of the previous administration.

Malaria

Malaria prevails in an enormous area in the north of this country. In the last years, the disease has made heavy inroads in other regions, such as El Chaco, where about 25,000 persons have been attacked by the disease. In

Formosa, malaria has become endemic. In all these places, attempts are made to control the disease. The curative and preventive measures instituted by the national department of public health have proved successful, when given a fair trial.

Public Health Stations

A sanitary station is being completed at San Luis. It is similar to those recently opened at La Rioja and elsewhere. There will be a babies' dispensary connected with it. Similar stations are being planned for Paso de los Libres, Mercedes (Corrientes) and Las Cuevas (Mendoza), to insure prophylactic and disinfecting measures on importations from Brazil and Chile. Another station will be located at Salta. The sanitary station at La Quiaca, charged with the supervision of passengers and freight from Bolivia, is about to be enlarged. A station for the study of malaria is to be opened at Famaillá (Tucumán).

Smallpox

Sporadic smallpox cases continue to develop in Buenos Aires and nearby places. In the capital itself, however, cases have been very rare, and there seems to be no danger of an outbreak. In the provinces, a decrease in the disease is reported.

Lectures

Several foreign professors have given courses of lectures. Professor Nonne of Hamburg discussed neurosyphilis.—— Prof. Pierre Abrami of Paris gave several lectures on malaria and hemoclastic shock.——Professor Faure gave two lectures, on hysterectomy and on the surgical treatment of cancer. They were illustrated with moving pictures.

BUDAPEST

(From Our Regular Correspondent)

Nov. 5, 1922.

The Influence of High Frequency Current on the Organs of Circulation

Dr. Paul Grosz, roentgenologist in a large provincial town in Hungary, has investigated the action of high frequency currents on the volume, frequency and tension of the pulse, on the tracings of the heart and on blood pressure. The research was carried out thus: In a number of cardiac patients and in a few healthy persons he determined immediately before and after each treatment, lasting from ten to twenty minutes, the area of cardiac dulness, the frequency, volume, tension and rhythm of the pulse, and the blood pressure. On an average, the pulse rate diminished after the high frequency treatment by five beats a minute, and the blood pressure rose 8 mm. of mercury. The largest fall in the blood pressure (systolic) was 12 a minute, and the greatest rise, 25. He uniformly noted an increase in the tension of the arteries. As regards the important question whether a single treatment can remove a certain amount of cardiac dilatation, he found that, in a measure, this question can be answered in the affirmative.

He described one of his cases, an aortic insufficiency, with marked dilatation to the left and a heaving apex beat, which permitted of the precise localization of the left border by palpation. Here he could satisfy himself that, after the application, sinistral dilatation was distinctly reduced, the apex beat being less violent and having appreciably receded.

Dangers of Phosphoric and Hydrocyanic Acid Vapors

Dr. Schnellen, medical adviser in a large match factory, made experiments on animals with the vapors of phosphoric acid and hydrocyanic acid, with findings in perfect accord with those of Wayschall, Yanote and Lehmann. Hydrocyanic acid, when given in the strength of from 0.03 to 0.04 per cent., has no effect on cats after three or four hours' exposure. As soon as the strength of the vapor is raised to 0.05, and the animal is immersed in it for an hour and a half, grave symptoms appear, such as deep respiration, increased salivation, dilatation of the pupils, cramp and vomiting. If the animal is kept in this atmosphere for from two and a half to five hours, death ensues. If the strength of the vapor is raised to 0.12 or 0.15 per cent., death occurs within thirty minutes, accompanied by the foregoing symptoms. In calculating the amount of hydrocyanic acid necessary to destroy life, the dose is found to vary from 1 mg. of the acid to 5 mg. for each kilogram of body weight of the animal. For man, it is calculated that 60 mg., or from 0.8 to 1 mg. for each kilogram of the body weight, would be a minimal lethal dose.

For phosphoric acid, it is found that doses of from 0.6 to 0.4 per cent. for a quarter of an hour render the animal quiet (Lehmann's experiments). After twenty minutes' immersion, the saliva is emitted from the mouth, with vomiting, and feebleness and unsteady movements are noted. An immersion lasting half an hour causes death. If the animal is allowed to remain fifteen minutes in the saturated receptacle, it requires two days in the open air to recover.

Involvement of the Ovaries in Mumps

Dr. Streplinger of Debreczen, at a recent medical meeting, stated that he had found that the genital glands were affected by mumps, infection occurring in twenty-six of sixty-six cases. The region over the ovaries was sensitive to pressure, and was more or less painful. He suggested that possibly mumps may be responsible for some of the pathologic changes observed in later life, and he suggests that this region be carefully observed in girls, and local measures applied on the slightest symptom of inflammation of the ovaries or their environment. By warding off or overcoming inflammation in the early stage, we can safely guarantee that the ovaries escape injury.

Sanitary Hairdressing

The sanitary board of the Council of Budapest has submitted to the public health department of the ministry of health a series of regulations for the formation of a register of sanitary hairdressers and barbers, it being proposed that any failure to comply with the regulations be followed by the removal of the name of the offender from the register. The board recommends, among other things, that regular customers provide their own toilet requisites; that all shelves and fittings be made of glass; that the use of powder puffs be discarded in favor of powder pulverizers; that a barber or hairdresser refuse to serve a customer who is apparently suffering from any skin or hair affection; and that all razors and combs be kept for five minutes in a 5 per cent. solution of sodium bicarbonate. The board insists also that hair curlers and tongs used in ladies' hair dressing establishments be boiled ten minutes.

PRAGUE

(From Our Regular Correspondent)

Oct. 31, 1922.

Lectures by Dr. Hrdlicka

Dr. Alois Hrdlicka of Washington is giving a course of lectures on anthropology, with special reference to Czechoslovakia, at the Prague medical faculty, on invitation from the Czech university. Dr. Hrdlicka was born in Humpolec, a small town in Bohemia, in 1869. At the age of 13 he emigrated to America with his father. Following his graduation in medicine, he returned to Europe for the first time, in 1896, when he began to study anthropology in Paris. He also visited his native country. His career is well known in the United States, his position in the Washington National

Museum making him one of the leading Czechs in America. Dr. Hrdlicka has always maintained warm relations with Czech scientists, having become a member of the Czech Academy of Sciences in Prague. He has also created a foundation for the study of anthropology at Prague university, which has conferred on him the honorary degree of doctor of philosophy. During the war, he took an active part in the movement for the liberation of his native land, and he has greatly aided the political leaders of the Czechoslovak revolution through his acquaintances in American scientific circles. The course of lectures which he is delivering now in Prague has been made an occasion for an ovation to this famous American scientist for his promotion of interest in a science which, up to today, has not received the attention which it deserves. Dr. Hrdlicka has also visited the new medical faculties at Brno and Bratislava, where his addresses have aroused similar enthusiasm.

Social Hygiene

At the fifth session of the delegates of the National Council of Social Hygiene, October 18, further important steps toward the coordination of private health and social agencies were taken. The Moravian association for the care of the young, which presented a large child welfare exhibit last month in Brno, was admitted as a member of the council. Through this provision, all the child welfare agencies are now organized under the council, forming a special group. The council has decided to undertake a cooperate drive in 1923. The spring drive will be made by the Czechoslovakian Red Cross, in cooperation with the antituberculosis league, the association for combating venereal disease, and the temperance league. The second drive will be made in early winter, and the funds obtained will be shared by the child welfare organizations. It is planned to make the second drive a seal sale campaign. The second point of discussion was the erection of a common building for all the associations participating in the council. A committee of seven representatives was appointed to carry out the project. The Czechoslovakian Red Cross is willing to furnish the site for the building, and the Red Cross and the antituberculosis league will probably be able to contribute a million crowns each. The architect will begin work on the plans immediately. The council will endeavor to spread the idea of concentration into the field. A circular letter, which has been approved by all the participating organizations, will be sent to all the local branches of the council, November 1, in the name of each respective organization. It will call for coordination in local branches along the lines followed by the central organizations. Finally, the preparation of a diet of social and public health workers is being planned for the spring of 1923, on the occasion of the antituberculosis congress in Prague. Annual meetings of all members of the council are to be held at approximately the same time, and all the delegates will assemble to discuss the concentration and coordination of social and public health work in the field.

New Venereal Disease Law

The daily press is devoting much attention to the new venereal disease law which was enacted, August 22, abolishing all brothels and the system of reglementation of prostitution. It was a mistake on the part of the parliament that the law was enacted at the date of its publication, and that the rules and regulations could not be published at the same time, because it could not be anticipated what changes the parliament would make in the law. As a result, some parts of the law were carried through at once, while, as to the rest, the authorities are waiting for the publication of the rules and regulations. The enemies of the law are, of course, using these facts in the campaign against this law. A part of the press maintains, for instance, that prostitution on the streets has considerably increased since the publication of the law. Some voices were heard in the press in defense of reglementation of prostitution. The partisans of the abolition system maintain that the increase of prostitution on the streets is due to the resistance of the police, which was against the law from the beginning of its preparation, and wishes now to demonstrate that the system of abolition is impossible in practice. The Czech Association for Combating Venereal Disease has issued a proclamation stating that it stands behind the law; that it has participated in its preparation, and that it supports all the provisions of the law. In the meantime, the ministry of health has prepared the rules and regulations for the law, and has started organizing dispensaries for treating venereal patients.

BERLIN

(From Our Regular Correspondent)

Nov. 4, 1922.

Death of Oscar Hertwig

Oscar Hertwig, biologist, who for many years was director of the Anatomicobiologic Institute of the University of Berlin, died, October 27, at the age of 73. He was a pupil of Gegenbaur, Haeckel and Max Schultze, and became Schultze's assistant in Bonn. In 1875, he established the nature of the impregnation process in the ovum of the sea urchin as a purely morphologic process. This discovery overthrew all the conceptions that had been advanced up to that time, and it remains to this day uncontested. Virchow's dictum *"omnis cellula e cellula"* was thus extended, and we could say *"omnis nucleus e nucleo."* Hertwig's second great contribution was his textbook on embryology, published in Jena in 1855, the first to expound clearly, from a strictly chronological standpoint and with a thorough consideration of the developmental phases, the processes of maturation of the ovum, fecundation or impregnation, segmentation, formation of germinal layers, and the development of the various organs.

In 1888, he was called to the University of Berlin as the director of the newly founded Anatomicobiologic Institute. Here he published a large number of articles and monographs, and was a frequent contributor to the *Archiv für mikroskopische Anatomie und Entwicklungsgeschichte.* The results of many of his researches are published in the "Handbuch der vergleichenden Entwicklungsgeschichte der Wirbeltiere." His "Elements of Embryology" is also well known as a textbook. In his book "Allgemeine Biologie," he combined the fundamental principles of cellular transmission of hereditary characteristics with the theory of evolution. He was also the publisher of "Zeit- and Streitfragen der Biologie" (mooted questions of biology). It seems almost tragic that, during the last years of his life, he felt compelled, as a strictly objective investigator, to take a stand against Darwinism, in opposition to his teacher Haeckel. His works devoted to this polemic question, "Das Werden der Organismen" and "Abwehr des ethischen, sozialen und politischen Darwinismus," passed through several editions in a short time. Only a few weeks ago, Hertwig had a clearly worked-out article in No. 37 of the *Deutsche medizinische Wochenschrift* on "The Theory of Heredity: Its History and Significance for the Present." It was doubtless the last article from the pen of this great scientist.

Effect of Social and Economic Conditions on Births and Mortality

The question has often been raised whether the percentage of children dying before reaching maturity is influenced by the number of children in the family, or by the social and economic position of the parents. A short time ago, the social hygienists Reiter and Helm stated, on the basis of

their investigations, that the favorable or unfavorable economic situation of the parents exerts almost no appreciable effect on the prospects of children as far as length of life is concerned. The Heidelberg hygienists Dresel and Fries have been testing this finding by a series of investigations conducted in the Hygienic Institute. Their special purpose was to determine the birth-rate and the child mortality among the various social classes of Heidelberg, and they reach the following generalizations: The birth of children is largely dependent on the vocation or profession and on the social or economic position of the parents. When there is a high birth rate, there is often a heavy child mortality, though not necessarily. Besides the economic and social position of the parents, the mode of living exerts a marked effect on child mortality. The income, the housing conditions, defective preparation of young women for motherhood, and disturbed social relations between mother and child, owing to the necessity of the mother's seeking industrial employment, along with the resulting undeveloped sense of responsibility and suppressed desire for a more normal, healthy existence, with consequent careless modes of living, exert a harmful effect on the conditions of growth as affecting the children.

Personal

Adolf Loewy, professor of physiology at the University of Berlin, has been appointed director of an institute at Davos, Switzerland, for research on the physiologic effects of residence in high altitudes as pertaining to the treatment of tuberculosis. Professor Loewy was born in Berlin in 1862, and received his education in Berlin and Vienna, having been a pupil of du Bois-Reymond. He devoted himself for a time to physiology in Vienna, and was later an assistant in the laboratory of animal physiology connected with the Berlin agricultural college at Zuntz. In 1895 he became a member of the medical faculty of the University of Berlin. The same year he received a medal from the Smithsonian Institution at Washington. Of his numerous writings, I will mention: "Ueber Respiration und Zirkulation," 1895; "Blutzirkulation beim Menschen," in collaboration with Schrötter, 1906; "Höhenklima und Bergwanderungen," in collaboration with Zuntz, Caspari and Müller, 1906; "Lehrbuch der Physiologie," in collaboration with Zuntz, 1909, and "Seeklima und Seebäder," 1910.

During the last few weeks, Dr. Baruch, vice president of the Central Relief Committee and president of the New York committee, visited Munich, Stuttgart, Darmstadt, Tübingen, Dresden, Vienna and Berlin, where he contributed to the relief of those in distress. The medical faculty of the University of Tübingen, where Baruch was once a student, conferred on him the title of doctor *honoris causa*. For the needy of Berlin, Baruch left 500,000 marks as a gift of the committees he represented.

Professor Hellpach of Karlsruhe, who was for many years editor of the *Aerztliche Mitteilungen*, the official organ of the so-called Leipzig League (a league of German physicians for the protection of their economic interests), has been chosen *Kultusminister* (of public instruction, etc.) of Baden. Hellpach has been politically active for many years, and is one of the leaders of the democratic *Landespartei*. He is 44 years old. In 1906 he became an instructor in the polytechnical school in Karlsruhe, where, after the war, he accepted the chair of applied psychology and pedagogics. He has been devoting himself of late to the problems of technical industrial education, and has been collecting material for a large work on the scope of the educational task of secondary schools, viewed from a critical and technical standpoint. He was a member of the *Landeschulkonferenz* of Baden and the *Schulkonferenz* of the German empire.

Marriages

CHARLES SIDNEY BURWELL, JR., Baltimore, to Miss Edith Mary Churchill of New York, October 10.

WILLIAM ANDREW LEE, Fergus Falls, Minn., to Miss Lucille L. Moses of Mankato, Minn., recently.

FRANK C. JOHNSON, to Miss Frances Adele M. Smith, both of New Brunswick, N. J., October 21.

ALFRED SMITH O'CONNOR, to Miss Frances Willard Hull, both of Worcester, Mass., October 18.

JOHN A. CAMPBELL, Colston, to Miss Harriet Lippincott Zell, both of Baltimore, November 9.

GEORGE M. MCCREIGHT, to Miss Maurine McTherrin, both of Des Moines, Iowa, recently.

CONSTANTINE P. FALLER, JR., to Mrs. Mary Boas Boll, both of Harrisburg, in October.

RICHARD S. MAJOR, Pittsburgh, to Miss Cornel Gilbert of Cincinnati, October 21.

JAMES O. RITCHEY, to Miss Helen Hare, both of Indianapolis, recently.

Deaths

Andrew Walker McAlester, Sr., Columbia, Mo.; St. Louis Medical College, 1866; chairman of the medical education board, and at one time president of the Missouri State Medical Association; professor of surgery, 1873-1910, dean of the department of medicine, 1880-1910, emeritus dean and professor, 1910, University of Missouri; formerly superintendent of the Parker Memorial Hospital; first health commissioner and president of the state board of health, 1901-1905; represented Missouri at the Vienna Exposition; aged 81; died, November 2, at the Boone County Hospital, from acute dilatation of the heart.

John Dwyer, New Rochelle, N. Y.; New York Medical College, 1861; formerly on the staff of the New York State Immigrants Hospital, Wards Island, and health inspector of the New York Board of Health in 1870; served during the Civil War as a correspondent for the New York *Herald*; member of the Medico-Legal Society of New York; founder and vice president of the Celtic Medical Association; died, November 14, aged 91, from heart disease.

Charles Edward Stewart Webster, Jr., Philadelphia; Columbia University College of Physicians and Surgeons, New York, 1902; served during the World War, first with the French army and later with the American Expeditionary Forces, and the American Red Cross in Russia; honorably discharged with rank of major, 1919; aged 45; died, November 5, at the Lankenau Hospital, from pneumonia.

James Mitchell Reese, Phillipsburg, N. J.; Bellevue Hospital Medical College, New York, 1883; member of the Medical Society of New Jersey; member, and at one time president, of both the school board and the board of trade; for many years surgeon for the Pennsylvania, Delaware and Lackawanna, and the Lehigh Valley and Central railroads; died, November 5, aged 64, from heart disease.

Curtis G. Kenyon, Hollywood, Calif.; Medical Department, University College of San Francisco, 1873; member of the Medical Society of the State of California; formerly president of the board of Clara Barton Hospital, Los Angeles; for twenty years on the staff of the St. Luke's Hospital, San Francisco; died, November 9, in Los Angeles, aged 76, from injuries received in an automobile accident.

Thomas Lynn Sutton ● Zanesville, Ohio; Johns Hopkins University, Medical Department, Baltimore, 1916; served in the U. S. Navy during the World War; on the staffs of the Good Samaritan and Bethesda hospitals; aged 32; died, November 4, at the Grant Hospital, Columbus, from a fractured skull, received in an automobile accident.

Roderick MacNeill, Charlottetown, Prince Edward Island; University of Pennsylvania, School of Medicine, Philadelphia, 1872; member, and at one time president, of the Medical Council of Prince Edward Island; formerly president of the Maritime Provinces Medical Association; died, October 17, aged 82, from senility.

Ernest M. Keys, Alameda, Calif.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; formerly president of the Alameda County Medical Association; at one time member of the board of education and of the board of health; for twenty years surgeon of the Southern Pacific Railroad; died, November 2, aged 65.

John H. Riley, DeKalb, Ill.; Baltimore University School of Medicine, 1899; member of the Illinois State Medical Society; formerly on the staff of St. Elizabeth's Hospital, Chicago; at one time surgeon on the Red Star liners; died, November 8, aged 47, at the Wilgus Sanitarium, Rockford.

Lucius Frank Hoyt, Jefferson, Iowa; Hahnemann Medical College and Hospital of Chicago, 1889; member of the Iowa State Medical Society; died, November 1, aged 64, from carcinoma of the shoulder, following the removal of his arm one year ago for roentgen-ray burns.

Daniel Francis Frederick, Ashley, Pa.; University of Pennsylvania, School of Medicine, Philadelphia, 1917; member of the Medical Society of the State of Pennsylvania; served in the M. C., U. S. Army, during the World War; died, October 21, aged 29, from chronic nephritis.

William Seward Hunter ✠ Norton, Kan.; Hering Medical College, Chicago, 1904; served during the World War; aged 43; was found dead in the Park Hotel, Arapahoe, Neb., November 3, from an overdose of morphin sulphate, presumably self-administered.

Vincent Sebastian Marraffino, New York; New York Homeopathic Medical College and Flower Hospital, New York, 1922; served in the M. C., U. S. Army, during the World War; died, October 31, aged 26, from acute edema of the larynx.

Robert Emmett Marshall, Elwood, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1903; member of the Indiana State Medical Association; aged 47; died, November 5, at a hospital in Indianapolis, following an operation.

Edgar Williams Watkins, Washington, D. C.; National University Medical Department, Washington, D. C., 1896; member of the Medical Society of the District of Columbia; aged 65; died, November 2, at the Garfield Memorial Hospital.

Richard Ferdinand Noth ✠ American Falls, Idaho; Denver and Gross College of Medicine, 1903; state health officer, and chairman of the school board; formerly member of the city council; died, October 29, aged 43, from pernicious anemia.

Jacob Benjamin Walker, Louisville, Ky.; Medical Department, University of Louisville, Louisville, Ky., 1872; formerly adjunct professor of obstetrics at his alma mater; died, October 24, aged 76, following a nervous breakdown.

Walter A. Scott ✠ Niagara Falls, N. Y.; Syracuse University, College of Medicine, Syracuse, N. Y., 1892; member of the American Roentgen Ray Society; died, November 6, aged 51, from acute dilatation of the heart.

Charles Francis Hyland Tafel, Unadilla, N. Y.; Long Island College Hospital, Brooklyn, 1908; formerly demonstrator of anatomy at his alma mater; died, November 6, aged 38, in a hospital at Asheville, N. C.

Archibald Arthur Frederick Stewart Beatty, New York; Detroit College of Medicine and Surgery, Detroit, 1900; on the staff of the Harlem Hospital, where he died, October 21, aged 47, from cerebral hemorrhage.

Charles Mathias Linehan, Dubuque, Iowa; Rush Medical College, Chicago, 1901; member of the Iowa State Medical Society; on the staff of the Finley and St. Joseph's Mercy hospitals; died, October 29, aged 45.

Frank C. Hess, Cadiz, Ind.; Medical College of Ohio, Cincinnati, 1881; member of the Indiana State Medical Association; died suddenly, November 4, aged 66, from cerebral hemorrhage and heart disease.

Willard Stiles Stevens, Iron River, Mich.; University of Michigan Medical School, Ann Arbor, 1897; died, November 6, aged 49, at the Presbyterian Hospital, Chicago, from gastro-esophageal ulcer.

Marcus M. Lown, Rhinebeck, N. Y.; Albany Medical College, Albany, N. Y., 1877; member of the Medical Society of the State of New York; died, November 13, aged 72, following a long illness.

William Hay Halbert, Lebanon, Tenn.; Eclectic Medical Institute, Cincinnati, 1888; died, November 5, aged 75, from paralysis and senility.

Charles Burich Graf, New York; Eclectic Medical College of the City of New York, 1899; aged 54; died suddenly, November 12, in the railroad station at Philadelphia, from heart disease.

Henry Clay Doan ✠ Humboldt, Iowa; University of Michigan Medical School, Ann Arbor, 1884; formerly county coroner; died suddenly, November 6, aged 67, from cerebral hemorrhage.

John F. Hobson ✠ Cleveland; Charity Hospital Medical College, Cleveland, 1868; for many years president of the board of education; died, November 7, aged 79, from pneumonia.

Volney A. Hoard, Rochester, N. Y.; New York Homeopathic Medical College, New York, 1881; member of the Medical Society of the State of New York; died, November 7, aged 63.

Austin F. Olmstead, Green Bay, Wis.; Homeopathic Hospital College, Cleveland, 1874; died, November 5, aged 79, from injuries received when knocked down by a hospital truck.

John Osborne Teasley, Lilly, Ga.; Atlanta College of Physicians and Surgeons, Atlanta, Ga., 1906; member of the Medical Association of Georgia; died, October 28, aged 45.

Elias C. Fleming, Hurlock, Md.; College of Physicians and Surgeons, Baltimore, 1878; member of the Medical and Chirurgical Faculty of Maryland; died, October 31, aged 68.

Susie L. Burkett ✠ Chicago; Harvey Medical College, Chicago, 1905; specialized in gynecology; died, November 3, aged 47, from carcinoma of the stomach and liver.

Trintis V. Miller, Silkeston, Mo.; Barnes Medical College, St. Louis, 1904; served in the M. C., U. S. Army, during the World War; died suddenly, November 7, aged 41.

Thomas U. Gourley, Phillipsburg, Mo.; Missouri Medical College, St. Louis, 1883; member of the Missouri State Medical Association; died, October 12, aged 67.

J. R. Henderson, Sandersville, Ga.; University of Georgia Medical Department, Augusta, Ga., 1880; died, September 29, aged 65, from cerebral hemorrhage.

Lycurgus Wellington Taylor, Petersburg, Tenn.; Vanderbilt University, Medical Department, Nashville, Tenn., 1877; died, November 3, aged 77.

William McMinne Hanna, Aurora, Ill.; Rush Medical College, Chicago, 1886; Civil War veteran; died, November 4, aged 82, from senility.

E. B. Weldon, Inman, Ga.; Medical College of Georgia, Augusta, Ga., 1871; Civil War veteran; died, October 14, aged 79, from senility.

Henry A. Mackaman, Bowerston, Ohio; University of Wooster Medical Department, Cleveland, 1877; died recently, aged 76, from senility.

Arthur Monteith Cole, Akron, Ohio; University of Wooster Medical Department, Cleveland, 1875; died suddenly, November 8, aged 67.

Theodore Parker Stanton ✠ Chariton, Iowa; Rush Medical College, Chicago, 1879; died, October 26, aged 69, from cerebral hemorrhage.

William Pearl Abell, Princeton, Ind.; Kansas City Hahnemann Medical College, Kansas City, Mo., 1908; died, November 11, aged 46.

William Y. Wells, Laketon, Ind.; Indiana Medical College, Indianapolis, 1873; aged 82; died, November 10, from heart disease.

Henry C. Dale, Chicago; Bennett Medical College, Chicago, 1884; died, November 15, aged 66, from cerebral hemorrhage.

Benton Haynes, Grand Isle, Vt.; Bellevue Hospital Medical College, New York, 1865; died, October 2, aged 86, from pneumonia.

Martin Bowen Arnold, Chicago; Eclectic Medical Institute, Cincinnati, 1864; died, November 12, aged 87, from pneumonia.

Walter Irving Blanchard ✠ Farmington, N. H.; Dartmouth Medical School, Hanover, N. H., 1884; died, October 31, aged 60.

Reuben Eves Phillips, Rochester, N. Y.; United States Medical College, New York, 1881; died, November 8, aged 73.

Jacob Ervin Fisher, Indianapolis; Medical College of Indiana, Indianapolis, 1903; died, November 7, aged 57.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

BI-OXO-DYN NOT ADMITTED TO N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Bi-Oxo-Dyn is put out by "Bi-Oxo-Dyn," Savannah, Ga. According to the information furnished the Council by W. F. Kennedy, Jr., who states that he is the originator and maker of this product, the quantitative composition of Bi-Oxo-Dyn is:

"Bismuth Hydroxide	14 per cent.
"Iodine	2 per cent.
"Dioxide (Borated) ($H_2O_2 + H_3BO_3 + H_8C_4H_4O_4$)	½ to 1 per cent.
"Menthol	3¾ grains to ounce
"Hydrastine	½ gr. to ounce
"Petrolatum	q. s., to ounces 1"

The following statement bearing on the composition of Bi-Oxo-Dyn appears on the trade package:

"Bi-Oxo-Dyn. Iodized petroleum of Bismuth Dioxide and Iodine. Chloral, 3 per cent., Iodine, 2 per cent., Dioxide (non-toxic)."

Relative to the iodin content it is claimed that Bi-Oxo-Dyn "is an iodized petroleum of 2 per cent. iodine. . . ." With reference to the dioxid constituent of the preparation, the advertising circular declares that the "Di-Oxide that enters into Bi-Oxo-Dyn is identical with Hydrogen Di-Oxide. This valuable Di-Oxide is in turn borated." The following statement with reference to the dioxid said to be contained in the product is given in a letter sent by W. F. Kennedy, Jr., to the Council: ". . . the Dioxide that is used as the antiseptic in Bi-Oxo-Dyn is obtained from Hydrogen Dioxide (Strong Sol.) treated with Anhydrid; this is in turn borated."

From the various claims submitted it is to be inferred that Bi-Oxo-Dyn contains 2 per cent. of free (elementary) iodin and 0.1 per cent. of hydrastin, 3 per cent. of chloral hydrate, 14 per cent. of bismuth hydroxid, 1 per cent. of menthol in a petrolatum base, and from ½ to 1 per cent. of a compound of succinyl peroxid and boric acid.

The A. M. A. Chemical Laboratory reports that Bi-Oxo-Dyn contains no free iodin but that it contains combined iodin in the form of iodid ions. The presence of hydrogen peroxid or other peroxids could not be demonstrated. If present, their amounts must be minute. Since it is known that peroxids, particularly hydrogen peroxid and succinyl peroxid, are unstable in the presence of organic matter, the presence of peroxids in a mixture of the character of Bi-Oxo-Dyn would not be expected. In a circular addressed to "Physicians Who Think" Bi-Oxo-Dyn is designated as a "Urethral Bland—Rectal Lubricant" and it is stated:

"Bi-Oxo-Dyn is of inestimable value for injecting into the inflamed urethra and is recommended in specific urethritis and uterine hemorrhage and painful chordee."

In this circular instructions are given for the use of this indefinite, complex and irrational hodgepodge in:

"Urethritis (Acute and Chronic), Prostatorrhea—Prostatis (Acute or Chronic), Cystitis—Vaginitis (Male or Female), Fistulas, Piles, Orchitis, Epidymitis, and Bubo."

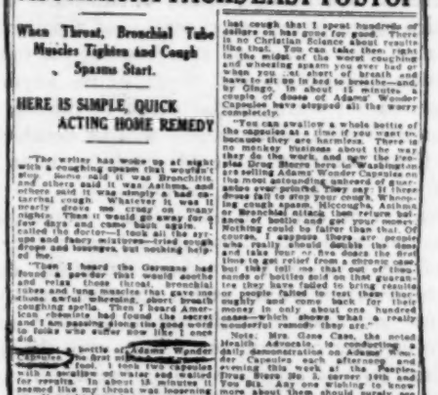
The Council declares Bi-Oxo-Dyn inadmissible to New and Nonofficial Remedies because (1) the statements of its composition are indefinite, misleading and incorrect; (2) the therapeutic claims are unwarranted; (3) the name is not descriptive of the composition of the product and is misleading, and (4) Bi-Oxo-Dyn is a complex, irrational mixture, the marketing of which is detrimental alike to the interests of the public and of scientific medicine.

ADAMS' WONDER CAPSULES

The Earle Chemical Company Brings Benzyl Succinate into the "Patent Medicine" Field

"Adams' Wonder Capsules" are sold, although, apparently, not made, by the Earle Chemical Company, Inc., of Wheeling, W. Va. This same concern puts out a line of "patent medicines": "Hypo-Cod," "Gray-Tabs" and "Phos-Pho Vitamine."

In some of the newspaper advertisements of Adams' Wonder Capsules, women and girls are urged to call at some local drug store and "talk about their ailments with a kindly, motherly woman of the experience and sympathetic understanding of Mrs. Gene Case, the noted Health Advocate." The public is told, further, that "Mrs. Case has been giving free treatments daily" and those who call on her are in no way "obligated or importuned constantly to try some expensive long weary treatment." This "noted Health Advocate," it appears, recommends "Adams' Wonder Capsules" for girls and women "who are troubled with Periodical pains, cramps and headache at Menstrual time, or who have Neuritis, Neuralgia, Stomach, bowel or bladder pains. . ."



BAD COUGHS, BRONCHIAL AND ASTHMA ATTACKS EASY TO STOP

When Throat, Bronchial Tube Muscles Tighten and Cough Spasms Start.

HERE IS SIMPLE, QUICK ACTING HOME REMEDY

Typical newspaper advertisement (reduced) of Adams' Wonder Capsules.

"Adams' Wonder Capsules" were submitted to the A. M. A. Chemical Laboratory for analysis. Here is what the laboratory reported:

"The package of Adams' Wonder Capsules contained twenty capsules, the average weight of each capsule being about 5.1 grains. No information is furnished by the manufacturer concerning the composition but the statement is made that the product is 'A Wonderful New Discovery' . . . discovered by chemists in Germany during war." The capsules contained a coarsely granular, white, odorless powder which, under the microscope, was seen to be in the form of hexagonal rhombohedra, although many of the crystals were broken and irregular in shape. The material was compared with known specimens of benzyl succinate; the two were seen to have the same crystalline structure.

"The powdered and dried crystals melted at 46 C., the same temperature at which a specimen of known benzyl succinate melted. The crystals also responded to other tests for this substance. As a result of the examination, it was concluded that Adams' Wonder Capsules are simply capsules of benzyl succinate."

Incidentally, it is of interest to note that the claim made by the exploiters of this preparation that Adams' Wonder Capsules were "discovered by chemists in Germany during the War" is untrue. Benzyl succinate was first prepared by Italian chemists over forty years ago (Zanna and Guareschi, *Gazz. chim. ital.* **17**:256, 1881), but its therapeutic properties were discovered by American pharmacologists about 1920.

Correspondence

THE QUESTIONABLE VALUE OF PRESENT-DAY MORTALITY STATISTICS

To the Editor:—One cannot help being impressed by the casual way in which most hospitals regard the accuracy of their assigned cause of death, as expressed in the regulation death certificate. Particularly can this be observed in any large city hospital in which chronicity of all grades is treated. In some hospitals, in order to comply with the regulations of the "Manual of the International List of the Causes of Death," when an elderly man or woman dies as the result of senile changes, general arteriosclerosis or cardiorenal disease, it is more than likely that the death certificate will contain as the cause of death, "chronic myocarditis." Statistics, then, compiled from these data, contain such cases as cardiac deaths, thus falsely raising the general mortality rate for this type of disease. Then, too, the physician sees, in the course of a year, many sudden deaths, carelessly assigned to "acute cardiac dilatation," when it is not unlikely that the death may have been due to nerve palsy, coronary blocking, massive cerebral hemorrhage, or any one of many other conditions which might have been causative of a patient's death.

I have also seen a lack of appreciation, on the part of interns, visiting physicians and others, of the importance of the information set forth in the death certificate, when it becomes known that a needy family will be deprived of life insurance if an accurate cause of death, such as syphilis, alcoholism or tuberculosis, is assigned.

In the courses on ethics in our medical schools, it would appear that not sufficient stress is laid upon the absolute necessity of the physician's furnishing, faithfully and truthfully, any information which, in his opinion, was the determining cause of death. Professional veracity must not countenance juggling of death certificates, even though needy and blameless persons suffer by telling the truth.

In some localities, the assignment of the cause of death is, under certain conditions, in the hands of lay civil officers, and as a result little confidence can be placed in any mortality statistics from this source.

How often does the physician, practicing in a hospital, see at postmortem that he has made gross errors in his diagnoses, even though the patients in question have been carefully and conscientiously studied? Such errors may be eliminated from the death certificate by the systematic performance of necropsies. Until all hospitals are awake to the fact that, from the standpoints both of teaching and of the advancement of medical learning, a strenuous attempt should be made to raise (and, in some instances, to bring into existence) their postmortem percentages, it can hardly be expected that clinical and pathologic diagnoses will coincide with any degree of accuracy. It seems evident that the administrators and visiting staffs of most hospitals do not have the courage of their convictions, in regard to the advisability of postmortem examinations on a large percentage of their deaths, or that they are not convinced of their duty to the cause of medical education.

When it is stated that the Philadelphia General Hospital, which handles from eighteen to twenty thousand patients annually, has increased its postmortem percentage, in three years, from 10 per cent. to 51.35 per cent., it should be clear that any hospital, making an intelligent attempt, could succeed in improving this most important branch of medical teaching, and at the same time increase the accuracy of its mortality statistics.

The utter disregard, on the part of most hospitals, of a serious attempt to confirm accurately the cause of death by postmortem examination is appalling. One cannot help being impressed by the utter worthlessness of present-day civilian mortality statistics.

Joseph C. Doane, M.D., Philadelphia.

APPARATUS LEAK AS A CAUSE OF FALSE LOW BASAL METABOLISM READINGS

To the Editor:—Basal metabolism determinations having become of the widest clinical use, it is well for all concerned in the performance of the test to be informed about every pitfall which may be encountered.

As a general proposition, whenever a leak occurs in the apparatus used for the test, it will give an apparent increase in oxygen consumption, and consequently a false positive reading. This is, apparently, because a certain degree of positive pressure in the machine is developed by each exhalation, a certain amount of air being forced out at each respiration; whereas, inhalation does not create a negative pressure sufficient to cause the same amount of intake through the leak. The variation from the true consumption of oxygen is dependent on the amount of air escaping through the leak.

Usually the presence of a leak in the apparatus is easily determined, and no test should be performed without a preliminary test of the machine. A good routine to follow is to test the machine by closing the circuit and placing a weight on the spirometer bell at the time when the patient is put on the bed for the preliminary test. If the reading of the scale has changed by the time the patient is ready for the test, there is a leak, this change in the reading showing a loss of air from the chamber.

Recently, an experience with a leak which caused an intake of air and a consequent false low reading has shown that leaks are not always productive of false positive readings.

In this case, a metabolism test had been made by a technician, with a resulting low reading which apparently did not correspond with the clinical aspect of the case. A test of the machine, a portable Benedict apparatus, demonstrated a leak present, the chamber losing air when the motor was idle but showing an increase in volume, amounting to 80 c.c. per minute, with the motor running. This increase in volume within the oxygen chamber demonstrated that the machine was taking in air under the influence of the circulating motor, this continuing during the metabolism test, and explaining the seemingly low oxygen consumption of the patient.

Failure to locate the leak by the usual methods, including immersion of all accessible parts in water, led to a procedure which I have not seen recommended as a method of locating leaks, but which is convenient and easily applied when there is difficulty and may be used to test parts of some machines which are accessible in no other way. This consisted simply in filling the apparatus with illuminating gas, in the same manner as it is filled with oxygen, and, while pressure was applied on the spirometer bell, a lighted match was carried over the machine until a flame revealed the leak of gas. Of course, with this procedure the soda lime should be removed beforehand, and afterward a thorough ventilation of the apparatus is necessary.

In this instance, the leak was located in a brass pipe leading from the oxygen chamber into the blower, the influence of suction from the blower being sufficient to draw air in from the exterior.

Kenneth M. Lynch, M.D., Dallas, Texas.

Untreated Cancer of Prostate.—The average duration of cancer of the prostate, if untreated, is approximately three years.—Bumpus, H. C., Jr.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE OZIAS HOSPITAL ASSOCIATION

To the Editor:—I have recently been in receipt of one or two letters from the Ozias Hospital Association ["a Business Trust"—"Chas. O. Ozias, Chairman of Board"] of Kansas City, Mo., relative to the hypodermic method for the cure of cancer, devised by Dr. Chas. O. Ozias. In these letters they are requesting physicians to form a committee of one hundred to bring patients to Kansas City for demonstration of the value of this method. Can you give me some information about Dr. Ozias and his activities?

FRED WILKERSON, M.D., Montgomery, Ala.

ANSWER.—Charles O. Ozias was graduated in 1892 by the Kansas City Medical College, receiving his Missouri license the same year. From 1893 until 1914 Dr. Ozias practiced in Warrensburg, Mo. He then moved to Kansas City.

In an advertising sheet put out by the "Animal Therapy Co." which exploits the "R.-H. Lymph Compound," a nostrum that was long ago refused recognition by the Council on Pharmacy and Chemistry, there are testimonials credited to Ozias, when he was at Warrensburg, telling of three "cures" in cases of pulmonary tuberculosis, and two "cures" in cases of epilepsy, following the use of the "R.-H. Lymph Compound." This was in 1911.

In a *Bulletin* issued as an advertising sheet by one Sweeny of Pittsburgh, who for years has been the exploiter of a nostrum, "Anti-Tuberculous Lymph Compound (Sweeny)," there is a testimonial credited to Charles O. Ozias of Warrensburg, Mo., describing his "cure" of a case of generalized tuberculous infection in six weeks' time with the use of Sweeny's "Anti-Tuberculous Lymph Compound." This was in 1912.

In a typewritten letter, signed Chas. O. Ozias and written to a Boston physician, it was stated that the writer was about ready to announce a "CURE" for paralysis following poliomyelitis. This was in 1918.

In a letter sent to a layman by Ozias and forwarded to us, statements appeared indicating that Ozias was compounding a "serum" for cancer. This was in 1919.

In the circular letter referred to by Dr. Wilkerson and widely distributed to physicians over the country, Ozias states that he is the "originator" of " a medicinal treatment for the effective cure of cancer by the hypodermic method." He offers to treat a hundred cancer patients before a committee of physicians, stating that as soon as the committee passed favorably on the merits of the treatment, the matter would be brought to the attention of Lord Atholstan who has offered a prize of one hundred thousand dollars for an effective cure of cancer. This is in 1922.

What will Charles O. Ozias be doing in 1923?

BARBITAL ADDICTION

To the Editor:—In Queries and Minor Notes (THE JOURNAL, Nov. 11, 1922, p. 1709) antipyrin salicylate is reported as being useful in the treatment of barbital (veronal) addiction. Please give dosage and method, as I have a case of veronal addiction. Please omit my name.

W. F. S.

ANSWER.—Fog (*Ugesk. f. Læger* **79**:370 [March 8] 1917) treated a case of addiction by gradually substituting antipyrin salicylate in the powders which were being taken until the patient was getting no barbital at all.

PRESERVATION OF BLOOD

To the Editor:—1. I am desirous of sending to our state laboratory blood of a diabetic patient for the purpose of having made a percentage sugar test. Please inform me as to the best method of preserving blood. 2. Is a test of this kind reliable?

J. M. COVINGTON, M.D., Wadesboro, N. C.

ANSWER.—1. Blood may be preserved for at least four days for blood sugar determinations by adding solution of formaldehyd, U. S. P., in the proportion of 1 drop to 5 c.c. of oxalated blood. The dropper employed should give 30 drops per cubic centimeter. A convenient method of obtaining the oxalated blood is as follows: To the tip of a perfectly clean, dry serologic pipet, the usual serologic needle is attached by means of a short piece of pure gum tubing. A small pinch of powdered potassium oxalate (20 mg. of the oxalate is sufficient for 10 c.c. of blood) is dropped into the upper end of the pipet, and allowed to run down into the tip. The upper end of the pipet is connected with a rubber suction tube, which is in turn connected with a short glass mouthpiece. The needle is inserted into the median basilic vein, and by suction the pipet is filled with blood.

2. Percentage estimations of blood sugar, when properly made, are reliable and practical.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 9. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, Jan. 2. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

COLORADO: Denver, Jan. 2. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: Wilmington, Dec. 12-14. Sec., Dr. P. S. Downs, Dover.

DISTRICT OF COLUMBIA: Washington, Jan. 9. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.

HAWAII: Honolulu, Jan. 8. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.

ILLINOIS: Chicago, Jan. 9-11. Supt. of Registration, Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, Jan. 9. Sec., Dr. W. T. Gott, Crawfordsville.

KENTUCKY: Louisville, Dec. 5-7. Sec., Dr. A. T. McCormack, State Board of Health Bldg., Louisville.

LOUISIANA: New Orleans, Dec. 7-9. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MARYLAND: Baltimore, Dec. 12. Sec., Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

MINNESOTA: Minneapolis, Jan. 2-4. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

NEW MEXICO: Santa Fe, Jan. 8-9. Sec., Dr. R. E. McBride, Las Cruces.

NORTH CAROLINA: Durham, Dec. 12. Sec., Dr. Kemp P. B. Bonner, Raleigh.

NORTH DAKOTA: Grand Forks, Jan. 1. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OHIO: Columbus, Dec. 6-8. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

OKLAHOMA: Oklahoma City, Jan. 9-10. Sec., Dr. J. M. Byrum, Shawnee.

RHODE ISLAND: Providence, Jan. 4-5. Sec., Dr. Byron U. Richards, State House, Providence.

TEXAS: Waco, Nov. 28-30. Sec., Dr. T. J. Crowe, Dallas County Bank Bldg., Dallas.

VIRGINIA: Richmond, Dec. 5-8. Sec., Dr. J. W. Preston, McBain Bldg., Roanoke.

WEST VIRGINIA: Charleston, Jan. 9. State Health Commissioner, Dr. W. S. Henshaw, Charleston.

WISCONSIN: Madison, Jan. 9-11. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.

Alabama July Examination

Dr. Samuel W. Welch, chairman, Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, July 11-14, 1922. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 26 candidates examined, 25 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Birmingham Medical College		(1915)	79.6
Emory University	(1922) 78.3, 80.2, 80.7, 81.6, 82.5, 84.5, 88.6, 88.8		
Tulane University	(1921) 77.6, (1922) 75, 80.2, 83.2, 83.8, 84.9, 85, 86.7, 87.2		
Dartmouth Medical School		(1905)	88.4
Jefferson Medical College	(1921) 85.3, (1922)		85.5
Meharry Medical College		(1922)	80.2, 82.6
University of Tennessee		(1922)	88.3
Vanderbilt University		(1921)	79.6
	FAILED		
University of Alabama		(1909)	66.4

Dr. Samuel W. Welch also reports that from May 2, 1922, to June 6, 1922, eight candidates were licensed by reciprocity. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University		(1919)	Georgia
Kentucky University Medical Dept.		(1906)	Kentucky
Louisville Medical College		(1904)	Kentucky
Coll. of Phys. and Surgs., Baltimore		(1882)	Missouri
University of Mississippi		(1910)	Mississippi
Memphis Hospital Medical College		(1910)	Mississippi
University of Tennessee (1897)	Tennessee	(1905)	Kentucky

Nebraska June Examination

Mr. H. H. Antles, secretary, Nebraska State Department of Public Walfare, reports the written and practical examination held at Lincoln, June 6-8, 1922. The examination covered 10 subjects and included 100 questions. An average of 70 per cent. was required to pass. Of the 41 candidates examined, 40 passed and 1 failed. Seven candidates were licensed to practice as chiropractors. Seven candidates were licensed by reciprocity, and one candidate received an osteopathic license by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
College of Physicians and Surgeons, Chicago		(1897)	1
University of Illinois		(1922)*	1
Creighton University		(1922)	21
University of Nebraska		(1922)†	17
	FAILED		
University of Nebraska		(1922)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1909)	S. Dakota
Rush Medical College		(1921)	Illinois
State University of Iowa College of Medicine		(1920)	Iowa
Southern Homeopathic Medical College		(1902)	Maryland
University of Michigan Medical School		(1915)	Michigan
Meharry Medical College		(1918)	Tennessee
University of Vermont		(1903)	New Hamp.
Osteopath			Illinois

* This candidate has finished the medical course and will obtain the M.D. degree after he has completed a year's internship in a hospital.

† This candidate will receive the M.D. degree in February, 1923.

Miscellany

ON THE MENTAL LIFE OF A PROFESSOR OF MEDICINE

[Being part of a personal letter written by Prof. Friedrich Müller of Munich to Prof. Graham Lusk of New York, and published with the permission of both.]

Dear Dr. Lusk:—. . . I hope you have received my Leiden adress upon "Problems of Metabolism."[1] I felt compelled to put together my ideas on the subject of protein metabolism. I cannot completely accept the dynamic theory of protein metabolism of Rubner or of Grafe, and I wished to express the idea that it is essentially a *chemical* problem. Many favorite theories which have come down from Carl Voit are no longer valid in the light of modern chemistry. I am keenly interested as to how you will handle this problem in the next edition of your "Science of Nutrition." The analysis of the specific dynamic action will be an especially difficult point. I can interpret it only as a problem of internal chemical work.

You write in a recent letter that Benedict [S. R.] holds it to be an anomaly that I, as a clinician, should concern myself with these physiologic problems. The responsibility for this belongs not alone to my training in Voit's laboratory but also and especially to the circumstance that, as physician at the sick bed, my attention is constantly called to the significance of problems of metabolism, and because the physiology of metabolism has been stimulated to a remarkable extent through a study of the pathology of metabolism at the bedside of the sick man.

You should read the new book of Petrèn on diabetes. It suggests a number of new problems. On the other hand, I do not believe that the new English experiments on the subject of carbonic acid and oxygen tension in arterial and venous blood will inform us further. We are investigating the blood of the arteries and veins of the arm. The metabolism of the arm and of the hand is of very little importance in comparison with that of the liver and the kidney or even of the heart. Oh, if we could only compare the blood of the aorta with that of the inferior cava and the hepatic vein! The new experiments of Starling are of much greater clinical importance and are fit to establish upon a new foundation our views concerning circulatory disturbances and heart disease.

The clinical teachers are forced to follow the progress made by the pure sciences, chemistry, physics and physiology, because they throw some light upon the processes of disease in man. But we do not approach the sick bed as physiologists, but rather first of all with love toward the sick man and with an intense desire to help him. I believe that this human fundamental element must be inborn or one will never be the right kind of a physician. The clinical teacher must be primarily a good and experienced physician, and not one whose entire interest and experience are of the laboratory. He who does not heartily interest himself in his patient will never be a good clinician. This human, or, if you will, humanitarian, side of our profession is not only the most beautiful but also the most interesting part of it. It assumes an interest not only for the body but also for the mental individuality of the patient, and I can assure you that my afternoon consultation hours, in which I see patients from all the countries of the world, are to me at least as interesting as the work in my laboratory.

Personal contact with the patients during my consultation hours widens my mental horizon not only from a medical but also from an intellectual point of view, for difficult medical cases and interesting personalities from all classes of society come to me during these hours. I therefore find myself out of sympathy with the new American system of "full-time clinicians," which limits the activity of the clinician to a ward in the hospital and forbids private practice among those who do not wish to go to a hospital. I feel that the forbidding of private practice is not in accord with Holy Writ, as expressed in I Timothy, chap. 5, vs. 18.[2]

In the laboratory we are still working on purely chemical problems, on the diazo reaction, on the nucleins, cholesterin, etc. All these matters are related to the problems of the physician, to fever and to gout. Besides this, work in physics is being done along the line of acoustics. As regards interpretation of the problems of auscultation and percussion, I feel that we have progressed very favorably and, using the method of Otto Frank, have replaced the former purely empiric impressions with clear-cut physical measurements.

To one method of approach in medicine I am fundamentally opposed, that of philosophical speculation, which to my great regret I find constantly increasing. But, of course, I do not include herein the wonderful psychologic ideas which, from a phylogenetic basis, have been developed by Karl von Monakow.

FRIEDRICH MÜLLER.

Munich, Aug. 10, 1922.

1. Müller, Friedrich: Deutsch. med. Wchnschr., 1922, Nos. 16 and 17.

MEDICINE IN ECUADOR

Surgery was held even in greater contempt than medicine in the Ecuador of colonial times, says Dr. J. F. Heinert, president of the Médico-Chirurgical Society of the Guayas, and as late as 1737, a royal decree enjoined surgeons from attending medical meetings. Even as late as 1785, a prominent Ecuadorian physician, Dr. Santa Cruz y Espejo, stated in his "Reflections on Smallpox" that there were plenty of prominent people at Quito, but not even a mediocre surgeon. The first surgeon in the city was Dr. Juan del Castillo, who practiced in 1706; Dr. Basilio Meneses was granted a surgeon's license in 1731; in 1785, there were two surgeons, and about the same time a barber, Manuel Coronado, after studying in private, applied for admission as a surgeon and passed the examinations with much success. The first protophysician, Dr. J. M. Ulloa Campos, was appointed in 1794; the second protophysician (1800), Dr. Bernardo Delgado, was also the surgeon-general of the Quito national guard and professor of medicine in Santo Tomás University. During the Independence War, a number of surgeons were on duty, among them, Dr. Manuel Herrán, Surgeon-General of the Army; an Englishman, Col. Charles Moore, and a Mexican, Dr. J. T. Araujo. The first board of health was organized at Guayaquil in 1821. The first medical society, "Sociedad Médica del Guayas," was organized, March 24, 1835. When the Charity Hospital was reopened in a new building, one of

2. "For the scripture saith, Thou shalt not muzzle the ox when he treadeth out the corn. And, The laborer is worthy of his hire."

the provisions in its charter required the appointment of a professor of medicine and a professor of surgery to care for the patients. The first amphitheater was built in 1837. Finally, medical teaching was reorganized in 1838, prescribing a six year course in medicine, in charge of four professors. The school of obstetrics (rather, midwives) was founded in 1847, a woman, Sra. Cipriana Casanova, being placed in charge, with the assistance of Dr. Acevedo, professor of anatomy, surgery and obstetrics at the Medical School. Another professor and surgeon-general of the army, Dr. Rafael Barahona, furthered much the progress of medicine through his work as a clinician and a physiologist. Dr. José Illesca, the most noted surgeon of his epoch in Quito, performed with success the first herniotomy in February, 1868, although with many misgivings and risking, as he said, "his reputation for the sake of surgery, humanity and religion." Sisters of Mercy were placed in charge of hospitals in 1870. Much work on the treatment of cancer with condurango was done in 1869-1871. The first maternity hospital was established in 1872. Two French physicians, Drs. Gayraud and Domec of Montpellier, were brought over in 1873 and 1874, respectively, to reorganize medical teaching and take charge of the San Juan de Dios Hospital. In their work "The Capital of Ecuador from a Médico-Chirurgical Standpoint," published afterward, they commented on the absolute lack of equipment at Quito on their arrival. They introduced perineal section and lithotripsy in Ecuador, and also several operations for cancer.

The Guayaquil Medical School was organized in 1877. The first professor of surgery was a noted surgeon, Dr. Alejo Lascano, a former pupil of Velpeaux and Nélaton.

The first reference to Pasteur and Lister's discoveries was in an address by Dr. L. Cárdenas in June, 1891, in Quito. The Médico-Surgical Hospital Society was founded in Quito in 1895, and the first medical journal, *Revista Médico-Quirúrgica*, began its career in 1896. With the advent of President Alfaro in 1895, a number of physicians were sent to take postgraduate courses in Europe, which step did much for medical progress in Ecuador. American surgery first made its influence felt through Dr. T. Martínez Aguirre (1887-1910), who had graduated in the United States.

Book Notices

GENERAL MEDICINE. Edited by George H. Weaver, M.D., Lawrason Brown, M.D., Robert B. Preble, A.M., M.D., Bertram W. Sippy, M.D., and Ralph C. Brown, B.S., M.D. Cloth. Price, $3. Pp. 715, with 104 illustrations. Chicago: The Year Book Publishers, 1922.

The section on general medicine of the year book series has been developed so that it represents the opinions of a number of specialists in various phases of the subject. In the present volume, Dr. George H. Weaver is responsible for infectious diseases and endocrinology; Dr. Lawrason Brown for diseases of the chest except the heart; Dr. Robert B. Preble for diseases of the blood, blood vessels, heart and kidney, and Drs. B. W. Sippy and R. C. Brown for the digestive system and metabolism. This volume is marked by the careful selection of articles abstracted and by numerous editorial notes.

CLINICAL DIAGNOSIS. Case Examination and the Analysis of Symptoms. By Alfred Martinet, M.D. With the Collaboration of Drs. Desfosses, G. Laurens, Léon Meunier, Lutier, Saint-Cène, and Terson. Authorized translation by Louis T. de M. Sajous, M.S., M.D. Volume I: Physical and Laboratory Diagnosis. Volume II: Analysis of Symptoms. Cloth. Price, $14 net. Pp. 1388, with 905 illustrations. Philadelphia: F. A. Davis Company, 1922.

This work is published in two volumes, the first dealing with the systematic examination of the various systems of the body and the second with analyses of symptoms associated with various diseases. The book is written in the pleasant style usually adopted by French writers of medicine, and the American translator has done well his share of the work. The section on mistaken diagnoses contains valuable hints regarding the causes for error. In fact, the chief value of this work is its practicality, its inclusion of minor details regarding methods and procedure which are absent from most textbooks on diagnosis. Methods of palpation are excellently illustrated by line drawings; apparatus used are thoroughly illustrated; stains and solutions are never mentioned without an accompanying formula. Throughout the text appear comparative tables for differential diagnoses. To the man in the field, this work should be a valuable, practical aid.

MEDICAL COLORADOANA. A Jubilee Volume in Celebration of the Semi-Centennial Anniversary of The Colorado State Medical Society, 1871-1921. Containing the titles of the scientific and literary contributions to medical literature by the members of the medical profession residing in the state of Colorado. Cloth. 1922.

In honor of their semicentenial the Colorado State Medical Society has just published a striking jubilee volume. It includes excellent portraits of the founder and of the deceased presidents of the society. In the form of historical notes is given the origin and development of the organization and its constituent branches. There is a list of medical periodicals published in Colorado, and finally a list of titles of books and papers published by the medical profession of Colorado in many important American publications. The list indicates that Colorado has fully contributed its share to the medical literature of this country. The volume is a valuable contribution to the history of Colorado.

X-RAY DOSAGE IN TREATMENT AND RADIOGRAPHY. By William D. Witherbee, M.D., Radiotherapist, Presbyterian Hospital, New York, and John Remer, M.D., Radiotherapist, New York Hospital. Cloth. Price, $1.75. Pp. 87, with 3 illustrations. New York: The Macmillan Company, 1922.

The purpose of this little book is to describe the method of measurement of roentgen-ray exposures which Witherbee and Remer have developed. The method has proved in practice reliable, and should be known to workers in this field. The booklet furnishes a reliable guide to the method, although it seems that the description of it could have been made much more simple than that which the authors have furnished.

THE OLD ENGLISH HERBALS. By Eleanour Sinclair Rohde. Cloth. Price, $7 net. Pp. 243, with 18 illustrations. New York: Longmans, Green & Co., 1922.

In a stately and beautifully illustrated volume, the author presents a study of old herbals, from the Anglo-Saxon period to the end of the seventeenth century. Her literary style is attractive, her knowledge complete, and her subject one of interest to all who have followed the developments of modern therapy. There are numerous anecdotes of medieval English anatomists and botanists. An excellent appendix gives complete bibliographic references to available herbals to which the author has had access. The fact that the preparation and study have been carried out under the guidance of Dr. and Mrs. Charles Singer vouches for the accuracy of the work.

MANUAL OF PHYSIO-THERAPEUTICS. By Thomas Davey Luke, M.D., F.R.C.S., Assistant Physician, Smedley's Hydropathic Matlock. Second Edition. Cloth. Price, $6 net. Pp. 480, with 210 illustrations. New York: William Wood & Co., 1922.

The subjects that are generally studied inadequately or not at all in medical schools are taken up in this book. It deals with thermotherapy, including phototherapy, with hydrotherapy, massotherapy and gymnastics, rest cure, climatotherapy, electrotherapy, roentgen rays, and dietotherapy. For a rather small book covering such a wide range of subjects, many of the various subdivisions are remarkably well given. Of course, the chapter on climatotherapy does not deal with American health resorts, as the author addresses himself to British therapeutists. Under the heading of electrotherapy, too much space, it seems, is occupied by the description of the various types of apparatus, and not enough to the discussion of effects and indications. This tendency reaches its extreme in connection with the roentgen rays, the production of which is discussed, but not their effects or uses. Radium is not mentioned at all; but there is a very good chapter on the Bergonié treatment. One of the excuses given for the neglect of these important topics in the medical school curriculum has been the lack of a suitable textbook. This book makes such an excuse no longer tenable. While not

ideal in every respect, it contains probably the best short exposition of these topics available in the English language. Unfortunately, the real cause for the neglect of physiotherapy is the ignorance of the framers of medical curriculums regarding it and the lack of competent teachers. As the students of the present become the curriculum makers of the future, we have here a vicious circle. Luke's book might furnish a remedy; but who will administer it?

Tuberculosis and the Community. By John B. Hawes, 2d, M.D., Director, Clinic for Pulmonary Diseases, and Assistant Visiting Physician, Massachusetts General Hospital. Cloth. Price, $1.75. Pp. 168. Philadelphia: Lea & Febiger, 1922.

In this work Dr. Hawes has striven for a simple presentation of scientific facts. He has written the book as a guide to those who may desire to study the subject of community hygiene, rather than tuberculous disease in the individual. The style is forceful and direct. Of especial interest is the chapter on the "Careless and Incorrigible Consumptive." We read that "tuberculosis of the lungs is classified, in every state in this country, as a communicable disease," but that, while the "public accepts as right and proper regulations concerning the isolation of those sick with scarlet fever, diphtheria, smallpox, etc., and looks upon such measures as necessary for the protection of public health, it does not regard tuberculosis in the same light." The author recognizes the difficulties in store for the health officer who may try forcibly to isolate a recalcitrant consumptive in a community which has not been properly educated to latter-day standards, and also has a word of condemnation for the overenthusiastic official who would quarantine the patient with tuberculous glands.

L'Adénopathie Trachéo-Bronchique Simple Chez l'Enfant. (Etiologie, Pathogénie, Complications Broncho-Pulmonaires). Par le Docteur Henri Forgeron, Ancien Externe des Hôpitaux de Paris. Paper. Pp. 192. Paris: Librairie Littéraire & Médicale Louis Arnette, 1922.

This is a thesis which starts out by summarizing the various articles in the literature, and takes up in the first part the anatomy and the pathology. The second part, devoted to the clinical features, considers the relation of enlargements of the glands to infections that predispose to tuberculosis, and discusses the enlargement of these in whooping cough, measles and grip. It then discusses the relation of this simple form of glandular enlargement to tuberculous enlargement. There are chapters on the enlargement of these glands in typhoid fever and in the respiratory infections, the latter being divided into two groups, those of the upper and those of the lower respiratory passages. It is interesting to note that after these studies the author comes to the conclusion that enlargement of the peribronchial glands never results directly from infections of the upper portion of the respiratory tract, but that when this is apparently true the enlargement is always due to infection in the lower portion, that is, the trachea and bronchi or lungs. The relation of simple to tuberculous infection of these glands is discussed. As is to be expected in French theses, the bibliography is almost altogether taken from that language.

Senescence: The Last Half of Life. By G. Stanley Hall, Ph.D., LL.D. Cloth. Price, $5. Pp. 518. New York: D. Appleton & Co., 1922.

Prof. G. Stanley Hall has done for the aged in this book what he did in 1904 for the young, in his "Adolescence"; he has collected a vast amount of valuable and scientific data regarding old age. In his sentimental introduction, he recounts autobiographically the way in which he laid down his daily work and took up the compilation of this volume after his retirement. In his first chapter, he records instances of early old age, and speaks of the opinions of others regarding the changes coming on after 40 years, including the famous address of Sir William Osler. In his second chapter, he describes how primitive man looked on the old, and traces the attitude toward the aged since the earliest times. He devotes a special chapter to famous writers who have done work after 60 years of age; while he includes such literary hacks as Amelia Barr, he neglects to mention such able writers as William Hudson, De Morgan or Sir Harry Johnston. His fourth, fifth and sixth chapters may be called scientific, since they deal with statistics and medical views and the contribution of pathology to this subject. He analyzes the results of a questionnaire sent to old persons to obtain their views as to life and the physiology of old age. Then comes the conclusion, and finally a section on the psychology of death. Most of the books on old age have been written by old men. G. Stanley Hall's book, like these others, has a psychologic point of view that is not commonly found in books by psychologists. A book on old age written by a young man would possibly be more scientific.

Précis de Pathologie Médicale. Tome IV: Maladies du Sang et des Organes Hématopoiétiques. Par P.-Émile Weil, Médecin de l'hôpital Tenon, and Marcel Bloch, Chef de laboratoire à la Faculté de Paris. Maladies des Reins. Par Pasteur Vallery-Radot, Médecin des hôpitaux de Paris. Boards. Price, 25 francs. Pp. 628, with 77 illustrations. Paris: Masson et Cie, 1922.

Précis de Pathologie Médicale. Tome V: Maladies de l'Appareil Digestif et de la Nutrition. Par Marcel Labbé, Professeur à la Faculté de Médecine de Paris, and G. Vitry, Ancien chef de Clinique à la Faculté de Médecine de Paris. Boards. Price, 25 francs. Pp. 788, with illustrations. Paris: Masson et Cie, 1922.

The system of small volumes is intended to occupy a place between the large treatises and the comparatively useless books of the quiz-compend type. The two volumes presented are excellent examples of well-chosen information, carefully arranged in a form wholly consistent with scientific values. At the same time, they are essentially practical; but, like condensed books in general, they often lack details which one would hope to find. Each subject is discussed from the standpoints of anatomy, physiology and pathology before the diseases are considered. The illustrations are numerous, well placed, attractive and practical. It would be difficult to attempt a detailed review of the numerous matters treated in the two volumes. Much of the French clinical medicine does not appeal to American readers; but the authors of the present books seem to have a broader light on world medicine than has been manifested in most recent continental books. Hypertension receives thorough discussion, but the evidence accumulated would not convince many that the pathology is "mechanical renal," or that permanent arterial hypertension is always of renal origin. The suggestion as to substituting biochemical terms for the vague "uremia" is a good one. The discussion of gastric ulcer, while incomplete, is to the point. It contains the surprising statement that the mortality is 50 per cent.

Clinical Laboratory Technic for Nurses. By Anna L. Gibson, R.N., Matron Superintendent of the Collis P. Huntington Memorial Hospital, Harvard Medical School. Cloth. Price, $2. Pp. 214, with illustrations. Boston: Whitcomb & Barrows, 1922.

In her preface, the author says, "This book owes its existence to the frequent request on the part of graduate nurses, whom it has been my pleasure to instruct in laboratory technic during the past three years, for a simple comprehensive textbook, that the nurses might be able to grasp the principles of clinical laboratory technic. There is no more important subject than clinical laboratory technic, nor one more far-reaching in its influence on the ultimate success or failure of the work of a nurse. This book was not written with the thought of making nurses diagnosticians, but to help them to have a more intelligent and more thorough understanding of this subject in its relation to nursing." The book is divided into twelve chapters, as follows: laboratory equipment, the microscope; urine; feces; gastric contents; sputum; the blood; bacteria; culture mediums; body fluids; milk, and preparation of tissue. Following the last chapter, there is an appendix, giving the composition of the various reagents mentioned in the text. The tests outlined in this little book are the generally accepted ones for the routine work of a laboratory and are given in sufficient detail to permit the worker to perform them intelligently. Naturally, matters of interpretation of tests and their clinical bearing are discussed only briefly, as the scope of the work does not permit of such inclusions. The text is clear and concise, the subject matter being entirely adequate for the purpose intended. At the end of each section, references are given to larger works, for collateral reading on the points covered. This work is to be recommended to all nurses and to those who may have to do with the instruction of nurses along these lines.

Medicolegal

Compensation Board Consulting Unbiased Expert About Testimony

(Carlin v. Core Bros. & Co., Inc. (Pa., 117 Atl. R. 405)

The Supreme Court of Pennsylvania, in affirming a judgment that affirmed an award under the workmen's compensation act, says that the plaintiff's husband was injured, March 27, and died, June 5. There was a fracture of ribs on the left side, but his death was due to an abscess on the right side. The wound on the left side healed, but he was never well after he received the injury. The abscess was discovered about five or six weeks after the accident, and he died a few days after it was located. The causal connection between the abscess and the injury to the left side was so plainly shown by medical evidence that this court cannot say that the workmen's compensation board or the court below committed error in holding it a sufficient basis for a finding that the plaintiff's husband died as a result of injuries he received in the course of employment. The testimony deduced from the related facts gave rise to the conclusion by the physician that the abscess followed as a direct result of the injury. But, in the first hearings before the board, the widow was denied compensation because of insufficient evidence. The compensation board, however, was in doubt as to the effect of one physician's testimony, and they consulted a professor in the University of Pennsylvania, who pointed out a possibility of error in their conclusion from the facts as testified to by the physician. With this check on their mental attitude toward the case, they ordered a new hearing. At this hearing, there was ample medical testimony to sustain the ultimate conclusion of the board that a causal connection was established. The fact that the board sought this advice was to be commended rather than censured. It was only fair to themselves, in dealing with a highly technical subject, to call to their assistance unbiased works or authorities at their command. In the administration of justice in this age, acting under such investigation assuredly does not corrupt or thwart right, and the compensation board did not commit error in receiving this assistance. The ultimate finding, however, was based solely on evidence brought on the record; it had no relation to extraneous matters.

Chiropractors and the "Practice of Medicine"

(State v. Barnes (S. C.), 112 S. E. R. 62)

The Supreme Court of South Carolina, in affirming a judgment of conviction of the defendant, a chiropractor, of practicing medicine without a license, in violation of the act of 1920 of that state, purporting to regulate the practice of medicine, says that the defendant contended that said act did not apply to one engaged in his profession, which consisted only in massaging the person of the patient, that the act did not define massaging or manipulating with the hands as the "practice of medicine," and that if the act purported to define such treatment as the practice of medicine, it was unconstitutional. But the court holds that, regardless of the act of 1920, chiropractors should be included within the class designation of those who practice medicine. Chiropractic has been defined, and is commonly understood, as a system of treatment by manipulation of anatomic displacements, especially the articulation of the spinal column, including its vertebrae and cord. This court adopts the declaration that:

> Medicine relates to the prevention, cure and alleviation of disease, the repair of injury, or treatment of abnormal or unusual states of the body, and their restoration to a healthful condition. It includes a broad field. It is not confined to the administering of medicinal substances, or the use of surgical or other instruments. It comprehends a knowledge not only of the functions of the organs of the human body, but also of the diseases to which these organs are subject, and of the laws of health and modes of living which tend to avert or overcome disease, as well as of the specific methods of treatment that are most effective in promoting cures.

Furthermore, the court holds that chiropractors are included by the act of 1920 among the class designated as those who practice medicine, the act containing the express provision that:

> Any person shall be regarded as practicing medicine . . . who shall, as a business, treat, operate on or prescribe for any physical ailment of another, or who shall engage in any branch or specialty of the healing art, or who shall diagnose, cure, relieve in any degree, or profess or attempt to diagnose, cure or relieve any human disease, ailment, defect, abnormality or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing or using or furnishing any drug, appliance, manipulation, adjustment, or method, or by any therapeutic agent whatsoever.

The act of 1920 is not unconstitutional in defining in the body of the act the meaning of the words "practice medicine," contained in the title of the act. The purpose of the act was to regulate the practice of medicine, which, as this court has concluded, embraces chiropractic. The fact that the act, in its body, declares what was true in the absence of such declaration, was entirely germane, though perhaps unnecessary. Nor is the act unconstitutional on the ground of prescribing capricious or unreasonable conditions on the chiropractor in obtaining a license. The main ground on which the alleged capricious and unreasonable features of the act were urged was that the chiropractor is required to familiarize himself with certain subjects which have no place in his branch of the healing art, such as anatomy, physiology, hygiene, toxicology, minor surgery, medical jurisprudence, pediatrics, bacteriology, and pathology. Naturally, the first step in the remedial process is diagnosis to find out what is the matter with the patient. To a layman's view, a familiarity with most, if not all, of the subjects named is essential to a proper discharge of this initial process, and equally so to the administration of the proposed remedy. Whether they are or not, however, is not a judicial question. It has been so declared by legislative authority, based, we must assume, on bona fide scientific grounds, and the requirement does not present such evidence of caprice or unreasonableness as to justify a destruction of a plan devised for the protection of the public.

Care Required in Selection of Hospital Employees—Scalding-Hot Injection

(Taylor v. Flower Deaconess Home and Hospital (Ohio), 135 N. E. R. 287)

The Supreme Court of Ohio affirms a judgment of the court of common pleas in favor of the plaintiff, and to do so reverses one of the court of appeals which reversed the judgment of the court of common pleas. The plaintiff charged the defendant with negligence in the selection and retention of a student nurse, who administered to him an injection of scalding-hot water while he was under the influence of the anesthetic, after an appendectomy, thereby causing him injury. The supreme court says that the decisive question for it was whether a public charitable hospital corporation is liable for the negligent and careless acts of an incompetent nurse, in failing to exercise ordinary care in selecting the nurse in question. The exact question involved in this case has never before been presented to this court.

The defendant pointed out that, in many of the decisions which recognized the principle of liability contended for by the plaintiff, the courts did so by inference; that is, by embodying in their opinions the statement that the hospital would not be liable for the negligence or incompetence of servants who had been selected with reasonable care. This was true; but it must be remembered that the hospitals are in the contested cases asserting an exemption from the general rule *respondeat superior* (let the master or superior answer). That doctrine itself had its origin in considerations of public policy. It doubtless will be in the future, as it always has been, modified or extended as the necessities of new social and economic conditions demand. And the exemption from liability of such organizations, subject to the condition of care in the selection and retention of servants which is so frequently found in the decisions of courts on the subject, indicates the general judgment that the exemption from the operations of the rule *respondeat superior*, which experience has shown to be a valuable aid in securing the ends of justice, should not be sweeping and complete, but should be surrounded by such safeguards as will prevent the neglect of a duty which the hospital can and should

perform. It cannot watch or control the countless acts and movements of its servants, but it can and should exercise care to see that only careful and competent servants minister to stricken patients who are within its walls. Moreover, while it may well be said that donors of funds for the praiseworthy objects of charitable hospitals do not contemplate the diversion of the fund for the payment of damages for the numerous acts of servants referred to, yet they necessarily realize and appreciate that they give their donations to those who have the management and control of the institution, and that every principle of justice requires that they use care in the development and maintenance of the property and in the selection of servants who have the oversight of patients.

In our day there is a general tendency in all persons to resort to hospitals in cases which require surgical operations, or in cases of severe sickness, and for obvious reasons it is desirable that such an institution should not be held out as devoted solely either to the poor or to the rich, and the degree of care required should in all cases be the same. The same rule should apply to a pay patient as to one who does not pay, and there is a general agreement on this proposition.

The decisions of the courts are irreconcilable, either as to the conclusions arrived at or the reasons given by different courts for the same conclusion. However, this court is convinced that sound reasons sustain the great weight of authority to the effect that a public charity should not be held liable for the negligence of the servant in whose selection the hospital and its managers have exercised due care. On the other hand, such an institution is liable when it fails to exercise such care. In other words, this court holds that when a public charitable hospital has failed to exercise due and reasonable care in the selection of physicians, nurses, or attendants, and injury results from the incompetence or negligence of such persons, the hospital is liable therefor.

Evidence of Negligent Treatment of Injured Arm—Damages Allowed

(Warner v. Pence et al. (N. D.), 188 N. W. R. 167)

The Supreme Court of North Dakota says that, May 11, the plaintiff was kicked on the left arm by a horse. He consulted one of the defendants, who gave the arm a manual and a fluoroscopic examination. The ulna was discovered to be broken several inches below the elbow, the break being diagonal, with the ends left somewhat jagged. On account of the swelling, it was deemed inadvisable to reduce the fracture that day, so the arm was placed in a sling and other first aid treatment given. Later attempts were made by the defendants to reduce the fracture by manipulation. At these times, both the manual and fluoroscopic examinations were made. The attempts proved unsuccessful, and the plaintiff was taken to a hospital, May 20, where an operation was performed by the defendants, assisted by another physician. The operation consisted of an incision separating the tissues of the forearm to the broken bone, placing the broken bone in shape, and fastening it with silver wire. The arm was put in a plaster cast, which was occasionally removed thereafter to permit the proper dressing of the wound, and, as the physicians testified, for the purpose of exercising the arm so that it would not become stiff. About five weeks after the operation, the cast was permanently removed. The elbow joint was stiff. About July 1, the plaintiff went to a chiropractor for treatment. July 16, he went to work on the section, cutting weeds with a hoe and shovel. He worked less than two weeks. In September, he went to another physician for treatment. Then, and at the time of the trial of this case, the elbow was practically rigid. The damages claimed in this action were predicated on alleged negligence in the defendants' treatment, which, it was contended, resulted in the stiff joint. The trial resulted in a judgment in favor of the plaintiff for $5,091.60; which is affirmed.

The defendants argued that the evidence was insufficient to support the verdict for the plaintiff. It was asserted by the plaintiff and witnesses who testified in his behalf that, at the time he consulted the physicians originally, there was a large lump on his arm in such a position as to indicate that the elbow joint was injured. There was likewise evidence interpreting certain roentgenograms which were made soon after the injury, to the effect that a break near the lower end of the humerus was indicated. There was also a roentgenogram taken in September which clearly revealed a marked dislocation of the radius at the elbow joint. The defendants contended that the roentgenograms taken soon after the injury revealed no injury to the elbow joint and no dislocation, that the plates did not show the lower end of the humerus sufficiently to determine the existence of a fracture there, but that they did show the elbow joint plainly enough to indicate that the bones were in place. There was also testimony by the defendants to the effect that the roentgenogram taken in September revealed that the ulna had been rebroken at the point of the original break. The fluoroscopic examinations were likewise minutely described so as to demonstrate the impossibility of such an examination's having been made without discovery of an injury or dislocation at the joint, if such existed. In short, the testimony was voluminous and conflicting in a number of respects; but the court is satisfied that the verdict was amply supported by the evidence.

Furthermore, the court holds that a verdict for $5,000 is not so excessive as to indicate passion or prejudice on the part of the jury, when the injury resulting to the plaintiff is that of a stiff joint, which will be permanently rigid unless relieved by an operation, requiring the removal of a portion of a bone, and the expenditure of from four to eight months' time for treatment, and of approximately $600 for professional services, after which the arm may be considerably weakened permanently.

Validity of Contract Authorizing a Necropsy

(Kahn v. Metropolitan Casualty Ins. Co. (Mo.), 240 S. W. R. 793)

The Supreme Court of Missouri, in affirming a judgment in favor of the plaintiff, on a policy of insurance, says that the policy contained a provision that the company should have the right and opportunity to make a necropsy in case of the death of the insured, when it was not forbidden by law. Still there was no merit in the contention that the company under the terms of the policy had the right to hold a necropsy on the body of the insured, for the reason that it never notified any one interested that it desired to hold the same, and therefore there was no refusal of the company's right to exercise that privilege under the policy. But, independent of that, the court seriously doubts the right of a person to make a valid contract binding any one to permit another to hold a necropsy on his body after death. Clearly it would not be binding on him, because he would be dead before the time of performance arrived; and it could not bind his heirs, executors, or administrators, because a contract which would be clearly personal in character would die with the obligee; and, furthermore, the dead bodies of all persons are under the sole control, and subject to the exclusive disposition, of the state. The state provides for necropsies and burials. If this was not true, the bodies of those who die of malignant or contagious diseases might be used by ignoble or designing persons to the great damage and injury to the public health.

Society Proceedings

COMING MEETINGS

American Physiological Society, Toronto, Canada, Dec. 28-30. Dr. Chas. W. Greene, University of Missouri, Columbia, Secretary.

Isthmian Canal Zone, Medical Association of, Ancon, Dec. 15. Dr. L. S. Chapman, Ancon, Secretary.

Philippine Islands Medical Association, Manila, Dec. 20-22, 1922. Dr. I. Concepcion, College of Medicine and Surgery, Manila, Secretary.

Porto Rico, Medical Association of, Ponce, Dec. 15-17. Dr. Augustin R. Laugier, San Juan, Secretary.

Radiological Society of North America, Detroit, Mich., Dec. 4-8. Dr. M. J. Sandborn, Appleton, Wis., Secretary.

Society of American Bacteriologists, Detroit, Dec. 27-29. Dr. A. P. Hitchens, Army Medical School, Washington, D. C., Secretary.

Southern Minnesota Medical Association, Mankato, Minn., Dec. 4-5. Dr. H. T. McGuigan, Redwing, Secretary.

Southern Surgical Association, Memphis, Tenn., Dec. 12-14. Dr. H. A. Royster, Raleigh, N. C., Secretary.

Western Surgical Association, Minneapolis, Minn., Dec. 8-9. Dr. Warren A. Dennis, Hamm Building, St. Paul, Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

October, 1922, **24**, No. 4

*Amount of Blood to be Transfused in Anemia of Children (Blood Dosage). T. Halbertsma, Haarlem, Holland.—p. 269.
*Diagnosis and Treatment of Intracranial Hemorrhage in New-Born. Report of Fourteen Treated Cases. D. Munro and R. S. Eustis, Boston.—p. 273.
*Congenital Deficiency of Diaphragm. J. S. Latta, Omaha.—p. 297.
*Experimental Pyloric Stenosis. I. H. Tumpeer and M. A. Bernstein, Chicago.—p. 306.
*Food Requirements of Children. V. Percentage Distribution of Calories. L. E. Holt and H. L. Fales, New York.—p. 311.
*Use of Radiant Heat—Light—in Treatment of Otitis Media. H. J. Gerstenberger and C. T. J. Dodge, Cleveland.—p. 320.
Infantile Rickets: Significance of Clinical, Radiographic and Chemical Examinations in Its Diagnosis and Incidence. A. F. Hess and L. J. Unger, New York.—p. 327.
*Failure of Yeast Therapy in Feeding of Infants. W. C. Davison, Baltimore.—p. 339.
Rabbit Hair Asthma in Children. Report of Cases. B. Ratner, New York.—p. 346.
*Diaphragmatic Hernia in New-Born: Report of Case. C. M. Davis, Cleveland.—p. 356.

Blood Transfusion in Anemic Infants.—In cases of simple anemia, Halbertsma has found that there exists a correlation between the amount of blood transfused, the body weight and the rise of red blood cells. A rise of one million corresponds with an amount of 15 c.c. of blood per kg. of body weight. This gives a method to estimate beforehand the amount of blood to be transfused, as shown in twenty cases from the Leiden pediatric clinic.

Intracranial Hemorrhage in New-Born.—Munro and Eustis propose that the following etiologic classification of cases of intracranial hemorrhage in the new-born be adopted: (*a*) Traumatic group; (*b*) "asphyxia" group; (*c*) fetal disease group. The diagnosis of intracranial hemorrhage in the new-born should be based on the following: (*a*) The history and physical examination; (*b*) the measurement of intracranial pressure by spinal manometer; (*c*) the determination of the coagulation and bleeding times. The treatment of intracranial hemorrhage in the new-born depends on (*a*) the successful etiologic classification of the case; (*b*) the recognition and measurement of the intracranial pressure. The treatment of intracranial hemorrhage, due to hemorrhagic disease, consists of the administration of normal whole blood subcutaneously until the bleeding and coagulation times have returned to normal, and then appropriate relief of the intracranial hypertension.

Congenital Deficiency of Diaphragm.—In the case cited by Latta there was almost total deficiency of the left side of the diaphragm. Associated with and doubtless as a result of this, there were found some other minor anomalies, the most evident of which was a misplacement of some of the abdominal viscera into the left pleural cavity. It was obvious that these misplaced viscera represented a spurious hernia, due to an arrest in development of the left side of the diaphragm, rather than a true hernia due to a lack of diaphragmatic muscular tonus or development, for these viscera were not enclosed in a hernial sac but lay free in the pleural cavity.

Experimental Pyloric Stenosis.—The anatomic condition of hypertrophic pyloric stenosis was imitated, by Tumpeer and Bernstein, by the production, by injecting paraffin, of an intramural tumor in the pyloric region in order to determine the effect of pure mechanical obstruction. The animals were observed as long as seven months. From the failure to produce obstructive symptoms despite marked anatomic obstruction the authors conclude that the clinical picture of hypertrophic pyloric stenosis is not due to the anatomic condition alone. This agrees with the clinical findings, in which the tumor is usually unilateral and rarely annular.

Percentage Distribution of Calories in Infants' Food.—Holt and Fales assert that a diet in which the fat supplies 35 per cent. of the total calories, the protein 15 per cent. and the carbohydrate 50 per cent., is one which meets the nutritive needs of the child after infancy, and is well borne by the digestive system, hence may be considered a well balanced ration.

Light in Treatment of Otitis Media.—Gerstenberger and Dodge are convinced that without question radiant heat in the form of light (quartz-mercury arc ultraviolet ray) is a therapeutic measure of great value, which will be found useful not only in the treatment of otitis media in its various forms but also in other conditions in which the therapeutic effectiveness of an active hyperemia is desired. This belief is based on clinical observation.

Value of Yeast in Infant Feeding.—If yeast has any real value in causing an infant to gain in weight, Davison asserts, it should be fed to patients convalescent from acute intestinal indigestion or to infants suffering from nutritional disturbances such as chronic intestinal indigestion (celiac disease) or to physically retarded children. Bakers' yeast in total amounts of one quarter or one half of a yeast cake per day was added to the diets of nine infants for periods of from eight to twenty-three days. This procedure was not only negative as to benefit but even harmful. Abdominal distension occurred in some of these patients, and their stools became more frequent.

Diaphragmatic Hernia in New-Born.—On the eighth day after birth the infant whose case is cited by Davis had two transitory attacks of slight cyanosis with rapid breathing for which examination revealed no cause. The following morning, shortly after nursing, he suddenly became intensely cyanotic, with rapid, dyspneic respiration, and lay limply in the dorsal position, with an appearance of impending exitus. The cyanosis was somewhat lessened by removing a rather snug abdominal band, and much more by holding the child in a vertical position, but recurred promptly when the child was laid down. After proper examination a diagnosis of left diaphragmatic hernia, due to congenital defect of the diaphragm, was made, and from the absence of vomiting or other gastro-intestinal symptoms it was thought that the stomach was not involved in the hernia and that there was no obstruction. This was confirmed by fluoroscopic and roentgenographic examination after an opaque meal, which showed the stomach to be normal in appearance and position while all of the intestine from the duodenum to the descending colon was above the diaphragm in the left chest and the heart was displaced into the right chest. Relief by postural treatment was marked and immediate. The parents refused to permit operation. Death occurred during the fourth week in the hospital, after rapid loss of weight in the third, with signs of bronchopneumonia. Permission for operation or for necropsy could not be obtained.

American Journal of Hygiene, Baltimore

September, 1922, **2**, No. 5

Mode of Action of Dyestuffs on Bactera. F. P. Gay and T. D. Beckwith, San Francisco.—p. 467.
*Intracutaneous Test for Virulence of Diphtheria Bacilli in Field Cultures. J. N. Force and M. I. Beattie, Berkeley, Calif.—p. 490.
*Relation Between Fatigue and Susceptibility of Guinea-Pigs to Infections of Type I Pneumococcus. E. E. Nicholls and R. A. Spaeth, Baltimore.—p. 527.
*Pathologic Effects of Diphtheria Toxin in Guinea-Pigs, with Special Reference to Lesion of Bowman's Capsule. I. W. Pritchett, Baltimore.—p. 536.
*Correlation Between Illiteracy and Mortality in American Cities. R. Pearl and M. L. Ilsley, Baltimore.—p. 587.

Intracutaneous Test for Virulence of Diphtheria Bacilli.—The literature on methods of performing virulence tests of *B. diphtheriae* and on the results of such tests is reviewed by Force and Beattie. A method for testing the virulence of *B. diphtheriae* by means of the intracutaneous inoculation of guinea-pigs with field cultures is described. Virulence tests, made by this method on cultures of *B. diphtheriae* from various sources, are compared with tests of the same cultures made by the subcutaneous method, described by Wayson. It is demonstrated that the intracutaneous virulence test with field cultures is less often influenced by contaminating organisms than the subcutaneous test with field cultures. It is further shown that the occasional difficulties of inter-

pretation of the intracutaneous test, due to contaminating organisms, are negligible, when compared with the saving in time and animals made possible by the intracutaneous inoculation of field instead of pure cultures. The results of virulence tests made with field cultures from various sources are compared with the results of virulence tests with pure cultures from similar sources. The more extensive use of the virulence test in the administrative control of diphtheria is discussed, especially with reference to the prevention of loss of school time by children who may be carriers of avirulent diphtheria bacilli.

Relation Between Fatigue and Susceptibility to Infection.—Fatigue, artificially induced in white or pigmented guinea-pigs by forcing them to run in motor-driven drums, Nicholls and Spaeth found definitely increases the resistance of these pigs to lethal injections of Type I pneumococcus. This occurs whether fatigue precedes or follows the pneumococcal injections, but is distinctly more effective in the case of fatigue before injection.

Pathologic Effects of Diphtheria Toxin in Guinea-Pigs.—A brief account is given by Pritchett of some lesions frequently observed in the tissues of supposedly normal guinea-pigs. An account is given of the chief lesions hitherto described as characterizing experimental diphtheria intoxications, and an effort is made to correlate the more important lesions as observed in the guinea-pig with regard to the time required for their development. A lesion of Bowman's capsule is described, consisting of swelling and proliferation of the capsular cells, which in well marked cases assume almost the appearance of cuboidal epithelium, and in sections properly stained with eosin and methylene blue are distinctly basophilic. Some unsuccessful experiments are recorded in which an attempt was made to detect free toxin in the urine of guinea-pigs injected intravenously with large volumes of neutral, or nearly neutral, toxin-antitoxin. These experiments were performed in an effort to demonstrate in vivo the dissociation of toxin and antitoxin which is said to occur following the injection of such mixtures during the process of immunization. Unsuccessful experiments are also recorded in the absorption of diphtheria toxin in vitro by emulsions of guinea-pig and rat brain, kidney and subcutaneous tissue.

Correlation Between Illiteracy and Mortality.—The study made by Pearl and Ilsley as to the correlation of illiteracy with the death rate indicates that the percentage of illiteracy in an urban community in this country is a significant factor in influencing unfavorably the death rate of the community from all causes, and from certain particular causes, notably diarrhea and enteritis, pneumonia, diphtheria and measles. The typhoid fever, whooping cough and puerperal fever death rates are apparently not significantly correlated with percentage of illiteracy, for probably quite different reasons in the different cases. Furthermore, there is apparently no significant net correlation between the death rates from either tuberculosis of the lungs, or nephritis with percentage of illiteracy, presumably for the reason that in these diseases the innate constitution of the individual is an etiologic fact of great importance.

American Journal of Medical Sciences, Philadelphia

October, 1922, **164**, No. 4

*Clinical Observations on Block of Branches of Auriculoventricular Bundle. J. B. Herrick and F. M. Smith, Chicago.—p. 469.

Posttraumatic Calcification of Pancreas with Diabetes. H. G. Wells, Chicago.—p. 479.

*Quantitative Studies in Syphilis From Clinical and Biologic Point of View. J. A. Fordyce, I. Rosen and C. N. Myers, New York.—p. 492.

*Wassermann Reaction in Nonsyphilitic Cases. T. McKean Downs, Philadelphia.—p. 514.

*Comparison of Sachs-Georgi and Wassermann Reactions in Serologic Diagnosis of Syphilis. R. A. Kilduffe, Pittsburgh.—p. 523.

*Treatment of Syphilis Among the Insane. T. B. Christian, New Jersey. —p. 529.

*Roentgen-Ray Diagnosis of Tuberculous Cervical Lymph Glands. J. M. Hanford, New York.—p. 539.

*Three Cases of Leukemia in One Family. C. W. McGavran, Columbus, Ohio.—p. 545.

Clinical Significance of Total and Differential Leukocyte Counts, with Special Reference to Acute Infections. W. C. Jones, Birmingham, Ala., and C. E. Brown, Birmingham, Ala.—p. 553.

Surgery of Thoracic Tumors. A. O. Wilensky, New York.—p. 573.

Diagnosis and Treatment of Amebic Colitis. A. C. Reed, San Francisco.—p. 587.

Block of Branches of Auriculoventricular Bundle.—Herrick and Smith detail the results of their clinical observations of thirty-five patients in each of whom the probably diagnosis of bundle branch block was made from the electrocardiogram. The electrocardiographic findings probably indicate a block of one main branch, or the majority of the subdivisions of one main branch, of the auriculoventricular bundle. The Q R S groups were atypical in the three leads and exceeded 0.1 second in duration. In many the duration approached 0.15 second. The *T* wave assumed the direction opposite to that of the prevailing ventricular deflection. In thirty-two cases the prevailing ventricular deflection was positive in Lead I and negative in Lead II and the duration of the Q R S was prolonged and in many instances approached 0.15 second duration. These electrocardiograms probably represent defects of the right branch. In three cases there was an *S* wave in Lead I and an *R* wave in Lead III. In these cases the location of the probable lesion of the conduction system is uncertain. In some instances there was a change in the form of the Q R S group which was coincident with the clinical improvement of the patients. In three cases there was an increase in the amplitude of the chief ventricular deflections. In one case the atypical Q R S groups disappeared except for a slight increase in duration of the *S* wave in Lead III. All of these patients had symptoms of myocardial weakness. In seventeen, or 48.5 per cent., there were clinical manifestations of advanced cardiac disease. In nearly all instances the cardiac weakness seemed to be due to a slow degenerative change in the myocardium secondary to arteriosclerosis. Twelve, or 57.1 per cent., of the twenty-one patients the authors were able to follow died within eighteen months. Ten died from cardiac failure. Necropsies were done in three cases. In two cases there was an extensive sclerosis of the coronary arteries and marked myocardial fibrosis. In the other case the anatomic diagnosis was obliterative pericarditis—huge dilatation and hypertrophy of the right auricle and ventricle, moderate hypertrophy of the left ventricle, myocardial fibrosis and cirrhosis of the liver.

Quantitative Studies in Syphilis.—Fordyce et al. cite the case of a previously healthy young man who fell from a wagon and was probably run over by at least one of the wheels. He sustained fractures of several ribs on the left side, traumatic infraction of the left suprarenal, the upper pole of the spleen and the entire left kidney, together with a crushing injury of the pancreas, which resulted in almost complete destruction of the secreting elements, which were replaced by a large quantity of dense fibrous tissue and extensive deposits of calcium salts. Analysis showed that about 64 per cent. of the dry weight of the pancreas consisted of inorganic salts, chiefly calcium carbonate. Jacksonian epilepsy developed, the result of necrosis of a considerable area of the cerebral cortex, presumably occurring at the same time as the other injuries. The patient became rapidly emaciated, exhibited great thirst and the urine found in the bladder at the necropsy contained sugar. A review of the literature has failed to reveal a similar case of extensive pancreatic calcification, whether posttraumatic or otherwise, or an analoguous case of diabetes following crushing injury of the pancreas.

Wassermann Reaction in Nonsyphilitic Cases.—Downs states that the Wassermann reaction is invariably positive at some time during the course of syphilis, if properly performed and at sufficiently frequent intervals, but is rarely positive in nonsyphilitic diseases. It is unusual for it to be positive in malaria. If positive, it is only weakly so while the fever is rising, becoming negative between paroxysms. It is rarely positive in tuberculosis, and when positive the reaction is weak or doubtful (not diagnostic of syphilis in the absence of history or signs). Downs has found the reaction positive only in far advanced cases shortly before death. It is not positive in cases of uncomplicated hyperthyroidism. These statements are based on personal study of cases.

Comparison of Sachs-Georgi and Wassermann Reactions.—The results of 430 parallel Wassermann and Sachs-Georgi reactions are reported by Kilduffe and coordinated with a series of 296 tests previously reported. He states that diagnosis of syphilis, or conclusions as to the results of treat-

ment, cannot be based on the results of a Sachs-Georgi reaction with safety, and the reaction does not seem suitable for general use for this purpose.

Treatment of Syphilis in Insane.—In Christian's experience most cases of latent syphilis are not cured, but arrest in the development of the disease and comfort to the patient result in a number of cases. The cases which show signs of improvement from a serologic standpoint can only be determined by treating and examining the blood. Christian's results obtained from treating the syphilitic insane have more than compensated for the time spent and expense incurred. In cases of general paralysis no results were obtained. Among 1,500 cases examined for syphilis 12.5 per cent. showed positive Wassermanns, and from this number of positive cases 26.2 per cent. showed signs of neurosyphilis: 17.6 per cent. being cases of general paralysis and 8.6 per cent. other forms of neurosyphilis. Christian emphasizes the tremendous importance of the early discovery and proper treatment of syphilis and the examination of spinal fluids, and thus to lessen the number of incurable latent syphilis and neurosyphilitics.

Roentgen-Ray Diagnosis of Tuberculous Lymph Nodes.—Calcification in tuberculous cervical lymph glands is not rare. The series of forty cases discussed by Hanford indicates that calcification occurs in 52.5 per cent. of such patients over 5 years of age. A positive diagnosis of tuberculous cervical glands, abscesses and sinuses may be made so frequently by a small roentgenogram, studied with the clinical picture, as to render the roentgen ray worth a trial before subjecting the patient to a biopsy.

Three Cases of Leukemia in One Family.—Of the three cases reported by McGavran one case was of the myelogenous type and two cases were of the lymphatic type. The patients were males. In addition to the leukemia there were in this family three cases of epilepsy, two known deaths from from tuberculosis, a case of apoplexy and several deaths from heart disease.

Archives of Occupational Therapy, Baltimore

October, 1922, **1**, No. 5

Work for Tuberculous During and After Cure. T. B. Kidner.—p. 363.
How Needs Have Controlled Selection of Crafts. L. J. Haas, New York.—p. 377.
Suggestion for Classification of Occupations in Occupational Therapy. M. M. Atwater, Seattle.—p. 389.
Review of Occupation Therapy as Applied to Mental Cases. E. C. Pratt.—p. 395.
Educational Possibilities of Occupational Therapy in State Hospitals. W. R. Dunton, Jr.—p. 403.
Tony's Awakening—Occupational Therapy Did It. H. A. Robeson.—p. 411.
Occupational Therapy for Deteriorated Male Patients. C. F. Read, Chicago.—p. 415.

Boston Medical and Surgical Journal

Nov. 2, 1922, **187**, No. 18

Physician and Surgeon. H. Cushing, Boston.—p. 623.
Principles to Follow in Building Children's Wards and Wards for Contagious Diseases. D. L. Richardson, Providence, R. I.—p. 630.
*Specific Sore Throat Which Passed as an Ordinary Pharyngitis and Tonsillitis; Treatment Gave no Relief. D. B. Medalia, Boston.—p. 637.
Case of Intussusception. P. J. Finnegan, Salem, Mass.—p. 638.
Two Headed Calf. E. B. Benedict, Boston.—p. 639.
Unusual Relation of Styloid Processes of Radius and Ulna. G. T. Tyler, Jr., Greenville, S. C.—p. 640.

Specific Sore Throat.—Medalia believes it is important to take a blood test in cases of persisting sore throats accompanied by ulcerations, and which do not clear up under ordinary treatments.

Georgia Medical Association Journal, Atlanta

October, 1922, **11**, No. 10

Diagnosis and Treatment of Tumors of Breast. J. L. Campbell, Atlanta.—p. 385.
Tumors of Breasts. G. R. White, Savannah.—p. 388.
Surgical Facts Gleaned from Personal Experience. H. S. Munroe, Columbus.—p. 392.
Surgical Kidneys: Report of Cases. J. P. Proctor, Athens.—p. 394.
Report of Trachoma Clinic Conducted at Pelham, Ga., Nov. 14, 1921, to April 1, 1922. J. McMullen, U. S. P. H. S.—p. 398.
Gunshot Wounds in General Practice: Report of Cases. A. K. Bell and J. H. Nicholson, Madison.—p. 401.
Progress of Medicine in Last Generation. H. R. Slack, LaGrange.—p. 405.
Vernal Conjunctivitis. B. H. Minchew, Waycross.—p. 407.
Importance of Careful Study of Etiology in Inflammatory Conditions of Eye. W. H. Cabaniss, Athens.—p. 409.
Enteroptotic Abdomen; Developmental Factors and Treatment. J. B. Fitts, Atlanta.—p. 413.
Surgery of Acutely Inflamed Gallbladder. W. S. Selman, Atlanta.—p. 417.

Journal of Biological Chemistry, Baltimore

October, 1922, **54**, No. 2

*System of Blood Analysis. Revision of Method for Determining Uric Acid. O. Folin, Boston.—p. 153.
*Colorimetric Estimation of Cystin in Urine. J. M. Looney, Boston.—p. 171.
*Proteolytic Enzymes of Spleen. S. G. Hedin, Upsala, Sweden.—p. 177.
*Experimental Rickets in Rats. IX. Distribution of Phosphorus and Calcium Between Skeleton and Soft Parts of Rats on Rachitic and Nonrachitic Diets. G. F. McCann and M. Barnett, New York.—p. 203.
Tryptophane Content of Some Proteins. C. E. May and E. R. Rose, Bloomington, Ind.—p. 213.
*Yeast as Source of Vitamin B for Growth of Rats. C. Kennedy and L. S. Palmer, St. Paul.—p. 217.
Determination of Uric Acid. S. R. Benedict, New York.—p. 233.
*Method for Purification of Picric Acid for Creatinin Determinations. S. R. Benedict, New York.—p. 239.
Synthesis of Water-Soluble B by Yeast Grown in Solutions of Purified Nutrients. M. B. MacDonald, Baltimore.—p. 243.
Studies on Experimental Rickets. XXIII. Production of Rickets in Rats by Diets Consisting Essentially of Purified Food Substances. E. V. McCollum, N. Simmonds, J. E. Becker and P. G. Shipley, Baltimore.—p. 249.
Strophanthin. I. Strophanthidin. W. A. Jacobs and M. Heidelberger, Baltimore.—p. 253.
*Determination of Titratable Alkali of Blood. I. Greenwald and G. Lewman, New York.—p. 263.
*Supposed Relation Between Alkalosis and Tetany. I. Greenwald, New York.—p. 285.
Evaluation of Buffers of Blood. E. A. Doisy, A. P. Briggs, E. P. Eaton and W. H. Chambers, St. Louis.—p. 305.
Is Asphyxia Cause of Drug Hyperglycemias? A. L. Tatum and A. J. Atkinson, Chicago.—p. 331.
Oxidation of Tertiary Hydrocarbons. P. A. Levene and F. A. Taylor, New York.—p. 351.
*Studies in Inorganic Metabolism. I. Interrelations Between Calcium and Magnesium Metabolism. L. J. Bogert and E. J. McKittrick, Manhattan, Kan.—p. 363.
*Studies in Inorganic Metabolism. II. Effects of Acid Forming and Base Forming Diets on Calcium Metabolism. L. J. Bogert and E. E. Kirkpatrick, Manhattan, Kan.—p. 375.
*Id. III. Influence of Yeast and Butter Fat on Calcium Assimilation. L. J. Bogert and R. K. Trail, Manhattan, Kan.—p. 387.
Antiketogenesis. IV. Ketogenic-Antiketogenic Balance in Man and Its Significance in Diabetes. P. A. Shaffer, St. Louis.—p. 399.
*Estimation of Formic Acid in Urine. E. M. Benedict and G. A. Harrop, Baltimore.—p. 443.
Comparative Toxicity of Ammonium Salts. F. P. Underhill and R. Kapsinow, New Haven, Conn.—p. 451.
*Influence of Water Introduction on Blood Concentration Induced by Water Deprivation. F. P. Underhill and R. Kapsinow, New Haven, Conn.—p. 459.
Excretion of Acid and Ammonia. R. S. Hubbard and S. A. Munford, Clifton Springs, N. Y.—p. 465.
Studies of Gas and Electrolyte Equilibria in Blood. III. Alkali-Binding and Buffer Values of Oxyhemoglobin and Reduced Hemoglobin. D. D. Van Slyke, A. B. Hastings, M. Heidelberger and J. M. Neill, New York.—p. 481.
Studies of Gas and Electrolyte Equilibria in Blood. IV. Effect of Oxygenation and Reduction on Bicarbonate Content and Buffer Value of Blood. D. D. Van Slyke, A. B. Hasting and J. M. Neill, New York.—p. 507.

New Method for Determining Uric Acid.—A method of the direct determination of uric acid in the blood filtrates from tungstic acid precipitation is described by Folin. He asserts that the results are dependable when applied to human blood. The values obtained are usually 0.1 or 0.2 mg. above those obtained by the silver precipitation and sodium chlorid extraction.

Colorimetric Estimation of Cystin in Urine.—Looney describes an application of the method for the colorimetric estimation of cystin recently advanced to the quantitative determination of cystin in urine. The process depends on the fact that cystin reacts with phosphotungstic acid in the presence of sodium sulphite to give a deep blue color. Cystin alone, without the addition of sodium sulphite, does not give any color with the reagent.

Proteolytic Enzymes of Spleen.—Hedin asserts that the spleen contains at least three different enzymes: (1) *a*-protease, acting on the spleen substance and on casein in an alkaline medium (p_H 8.8); (2) *b*-protease acting on the

spleen substance and on casein in a weekly acid medium (p_H about 5.4); and (3) erepsin not acting on casein but having its most powerful action on Witte's peptone at p_H 7.5 to 8.5.

Calcium and Phosphorus Content of Tissues of Rats with Rickets.—Rats were given the experimental diets at the age of 4 weeks. The diets were continued for twenty-eight or thirty days. Roentgenograms were then made and the rats killed by etherization. The soft tissues and the bones were examined separately for calcium and phosphorus content. In the case of the rachitic rats it was reduced. This reduction was the same whether the rickets had been produced by a diet poor in phosphorus and rich in calcium or by one poor in calcium and rich in phosphorus. In rachitic rats, the bones may contain a smaller percentage of the total phosphorus than is found in normal rats. This difference is not marked—except where fair growth has occurred. When rickets is prevented from developing in rats given a diet poor in phosphorus but rich in calcium by administration of cod liver oil or by exposure to light, the total phosphorus and calcium content per hundred gm. of body weight is well within the normal range.

Yeast as Source of Vitamin B.—For several years it has been generally considered that yeast is a very rich source of vitamin B. The potency of yeast as a source of vitamin B has apparently never been questioned. The results obtained by Kennedy and Palmer do not support this belief. The failure of the rats to reproduce normally and rear their young is one of the strongest arguments against the use of yeast as a source of vitamin B. Yeasts from different sources were fed to experimental animals to ascertain if all yeasts were equally potent sources of vitamin B. Two methods of feeding the yeasts were employed. In one, the yeast was mixed in a purified ration which was adequate as to all its constituents except vitamin B. In the other, the yeast was fed separately in the form of a pellet. The last method proved to be the most satisfactory. The rats were kept under conditions favorable for reproduction, but only in a very few instances were young produced and these were never reared. A comparison is shown between the amount of unknown nitrogen added to the ration when an adequate amount of vitamin B is fed in the form of yeast and wheat embryo extract. A discussion of the probable reason for the failure of yeast as a source of vitamin B is given.

New Method of Purifying Picric Acid.—Benedict advocates crystallization from benzene as being a very satisfactory method for the purification of picric acid for creatinin determination.

Determination of Titratable Alkali in Blood.—A method based on a new principle, for the determination of the titratable alkali of the blood is described by Greenwald and Lewman. The results are unaffected by the presence of small amounts of oxolate or by the degree of saturation of the blood with oxygen or with carbon dioxid. Several indicators may be used in the same sample. By a suitable choice of indicators, the value of the "acid-soluble" buffers may be determined.

Relation Between Alkalosis and Tetany.—After intravenous injection of sodium carbonate or sodium bicarbonate into dogs, Greenwald states, there is a retention of carbon dioxid which is so great that the reaction of the blood is changed only slightly. Such change as does occur, may be produced with comparatively small doses. If the injection is made sufficiently slowly to avoid apnea but is continued for a sufficiently long period, convulsions appear. Coincidently, the sodium bicarbonate content and the alkalinity of the blood begin to diminish and this process continues so that, before death occurs, both may be less than normal. The change is due, in part, to the increased production of lactic acid. There is some evidence of the formation of some other nonvolatile acid. The production of lactic acid appears to be increased before convulsions appear but it is enormously accelerated thereby. At the time convulsions appear, the concentration of sodium in the plasma is the same as was observed after the injection of other sodium salts (chlorid, sulphate, phosphate). The convulsions are ascribed to "sodium poisoning," a disturbance, due to an excess of sodium, of the normal equilibrium between sodium and other ions. The evidence in favor of a relation between alkalosis and the tetany of parathyroidectomized dogs, gastric tetany, and the tetany of hyperpnea is examined. It is shown that only in the last named is there any indication of a change in the reaction of the blood and that, even in this case, it is not the alkalosis, per se, but the tissue anoxemia that results from the increased stability of the oxyhemoglobin, that is the exciting factor.

Interrelation Between Calcium and Magnesium Metabolism.—Experiments were conducted by Bogert and McKittrick to ascertain whether an increased intake of calcium would affect the urinary and fecal excretion of magnesium and vice versa, thus showing interrelations between the metabolism of these two elements. They found that the addition of 6 gm. of magnesium citrate per day to the experimental diet increased the urinary and fecal magnesium in all cases. The added magnesium also increased the urinary and fecal calcium in three out of four cases, and the total calcium excretion in all four cases. The addition of 6 gm. of calcium lactate per day to the experimental diet lead to decided increases in both urinary and fecal calcium in all four cases. It seemed to result in increased urinary magnesium in two instances and in a slightly increased fecal and total magnesium output in all four subjects, although possible after effects of the magnesium citrate taken in Period II make it impossible to draw definite conclusions as to the influence of the calcium lactate on magnesium metabolism.

Effect of Diet on Calcium Metabolism.—The base forming diets given by Bogert and Kirkpatrick resulted, in every case, in a decided diminution in urinary calcium, while the acid forming diets caused a marked increase in urinary calcium in three out of four subjects. The amounts of calcium excreted in the urine on the acid forming diets were from two to three times greater than the amounts excreted on the base forming diets in every instance. The percentage of total calcium output eliminated through the urine was noticeably decreased on the base forming diets and increased on the acid forming diet, while the percentage of calcium excreted by way of the feces was increased on the base forming diets and decreased on the acid forming diets, showing the tendency of the base forming diets to divert calcium from the urine to the feces, and of the acid forming diets to increase urinary calcium at the expense of fecal calcium. Three out of the four subjects showed a noticeable increase in total calcium excretion and two showed increased negative calcium balances, not to be accounted for by calcium deficiency in the diets, during the period in which the acid forming diets were consumed. The total calcium excretion during the period of the base forming diet was lower than in the preceding period in three subjects, and about the same in the fourth. In two instances, the negative calcium balance was diminished on the base forming diet, while in two instances, it was increased. The facts stated tend to indicate that calcium is retained somewhat more readily on a basic diet than on balanced or acid forming diets, while calcium excretion is greater on an acid forming diet than on balanced or base forming diets.

Influence of Yeast and Butter Fat on Calcium Assimilation.—The addition of yeast to a basal diet, practically free from vitamins, Bogert and Trail noted, led to lowered excretion of calcium in normal women. The substitution of an equal weight of purified butter fat for purified fat from nut margarine in the "vitamin-free" diet also resulted in decreased calcium elimination. These facts suggest some influence of the vitamin content of the diet on calcium assimilation.

Estimation of Formic Acid in Urine.—An improved and simplified method for the estimation of formic acid in urine is described by Benedict and Harrop. No increase in the excretion of formic acid has been found during the acidosis due to diabetes, and in that due to starvation. The formic acid excretion and its relation to the total organic acid excretion are presented from an experiment in the production of acute methyl alcohol poisoning.

Water Ingestion and Blood Concentration.—Short intervals of water deprivation significantly increase the blood concen-

tration of dogs. Water introduction in animals with concentrated blood produces a return of blood concentration to a point approximating the normal. These observations, by Underhill and Kapsinow, indicate the type of therapy adequate in conditions associated with concentrated blood and lend support to the therapy advocated previously by Underhill in war gas poisoning and in certain types of influenza.

Journal of Laboratory and Clinical Medicine, St. Louis

October, 1922, **8**, No. 1

*Temporary Disturbances Due to Local Anesthetics. E. L. Ross, Chicago.—p. 1.
*Reticulosis: Increased Percentage of Reticulated Erythrocytes in Peripheral Blood. E. B. Krumbhaar, Philadelphia.—p. 11.
*Blood Sugar and Alleged Glycosuria Following Operative Procedures on Thoracic Duct. C. S. Williamson, Rochester, Minn.—p. 19.
Pharmacologic Action of Isopropylethyl-Barbituric Acid. D. E. Jackson, Cincinnati.—p. 23.
Effect of Warm and Cold Weather on Blood Catalase. W. E. Burge and J. M. Leichsenring, Chicago.—p. 33.
*Studies on Gastric and Duodenal Ulcer: Relation of Epigastric Hernia to Gastric Ulcer J. Meyer and A. C. Ivy, Chicago.—p. 37.
Relation of Fibrosis and Hyalinization to Longevity in Cancer: Study of 194 Cases. W. C. MacCarty, Rochester, Minn.—p. 42.
Simple Technic for Preparation of Spinal (Headless) Animal. R. A. Cutting, Chicago.—p. 44.
Artifacts in Blood Culture Plates Simulating Colonies. W. Thalhimer, Milwaukee.—p. 46.
Preservation of Complement Serum with 25 Per Cent. Sodium Chlorid Solution. M. W. Lyon, Jr., and V. B. Trager, South Bend, Ind.—p. 48.
Gasometric Method for Determination of Urea Nitrogen in Blood. A. Mirkin, New York.—p. 50.
Substitute for Long Roll Kymograph. F. P. Chillingworth, Boston.—p. 52.
Practical Value of Ice-Water Bath for Use in Complement-Fixation Test for Syphilis. H. V. Langworthy and E. J. Kerley, Albany, N. Y.—p. 54.
Automatic Distributing Apparatus. L. H. Cornwall and G. P. Schmitt, New York.—p. 56.
Continuous Water Still for Bacteriological Laboratory. M. L. Cooper, Chicago.—p. 58.
Class Demonstration of Intestinal Activity. A. E. Guenther and H. C. Lawson, Omaha.—p. 60.
Barbital as an Anesthetic for Dogs. A. L. Tatum and E. Parsons, Chicago.—p. 64.

Temporary Disturbances Due to Local Anesthetics.—Ross endeavored to determine the changes taking place in the respiratory and circulatory systems when the commonly used local anesthetics were applied to animals by the same method used in medical practice. Epinephrin, cocain and procain were used. It was shown that submucous injections of epinephrin and cocain bring on systemic reactions similar to those produced by intravenous injections of the drug. They are capable of causing enormous increases in arterial and venous pressures. The intracranial venous pressure was increased relatively twice as much as the arterial pressure. Cocain and epinephrin, when injected submucously, act strongly synergistically.

Reticulosis in Erythrocytes.—Erythrocytes revealing a more or less extensive reticulum (granulo-filamentous substance) by the methods of vital staining, Krumbhaar says, may be conveniently designated "reticulocytes." The reticulum is probably of protoplasmic origin, and indicates an intermediate stage between the erythroblast and the adult erythrocyte. A simple method for their recognition and estimation is described. The greater delicacy of the tests for these cells and the greater constancy and delicacy of their variations in the peripheral blood, makes them more valuable criteria of the functional activity of the bone marrow than the study of polychromatophilia or nucleated forms. In the blood of dogs made plethoric by repeated transfusions of blood, the reticulocytes diminished or disappeared entirely during the plethoric stage. With the occurrence of a hemolytic anemia, a reticulosis occurred, which in one instance reached 81 per cent. The average percentage of reticulocytes and their normal range in man and the common laboratory animals is given. The average curve of reticulosis during infancy is given, and the variations occurring in disease discussed.

Blood Sugar Percentage After Operations on Thoracic Duct.—Practically no changes in the blood sugar level were observed by Williamson following operative procedures on the thoracic duct (thoracic duct ligation or thoracic duct fistula). Glycosuria did not develop in any of the animals used.

Relation of Epigastric Hernia to Gastric Ulcer.—Meyer and Ivy were unable to demonstrate experimentally in dogs that epigastric hernia with omentocele is a causative factor of gastric ulcer. They suggest that the tendency to a local pocket formation in the wall of the stomach brought about by the "tugging" of the omentocele may be an etiologic factor of gastric ulcer in man. They prefer to believe that concomitant gastric ulcer and epigastric hernia in man is coincident and not that the hernia has a direct etiologic relationship to the ulcer. Epigastric hernia does not cause hyperacidity, as the gastric findings in such cases are within the normal variation.

Michigan State Medical Society Journal, Grand Rapids

November, 1922, **21**, No. 11

Management of Cardiorenal Case. M. A. Mortensen, Battle Creek.—p. 449.
Responsibility of General Practitioner to Pharmacopeia. C. W. Edmunds, Ann Arbor.—p. 452.
Nitrous Oxid-Oxygen Anesthesia in Major Surgery. A. W. Blain, Detroit—p. 456.
Medical Management Following Gastro-Intestinal Surgery. I. W. Greene, Ann Arbor.—p. 459.
Lateral Sinus Thrombosis. D. M. Campbell, Detroit.—p. 462.
Conservation of Sac in Dachryocystitis. C. H. Baker, Bay City.—p. 467.

Military Surgeon, Washington, D. C.

October, 1922, **51**, No. 4

Usher Parsons (1788-1868), Surgeon, United States Navy. F. L. Pleadwell.—p. 351.
Military Marksmanship in Relation to Color of Eyes, Race and Other Factors. W. P. Chamberlain and A. G. Love.—p. 395.
Fate of Intra-Ocular Foreign Body. H. S. Gradle.—p. 411.
Two Cases of Spina Bifida Occurring at Fort Benning, Georgia. H. S. Hansell.—p. 415.
Conditions in Poland, 1919-1920. C. Halliday.—p. 418.
Survey of Calcium Hypochlorite (Bleaching Powder) Tubes for Use with Lyster Water Bag. C. B. Wood.—p. 444.

New Orleans Medical and Surgical Journal

October, 1922, **75**, No. 4

Carcinoma of Cervix. B. C. Garrett, Shreveport.—p. 165.
Toxemia of Late Pregnancy. G. M. G. Stafford, Alexandria.—p. 171.
Unusual Cases Showing Diagnostic Value of Roentgen-Ray. L. J. Williams, Baton Rouge.—p. 177.
Prevention of Otitis Media and Sinusitis in Acute Coryza and Influenza. M. P. Boebinger, New Orleans.—p. 185.
Late Treatment of Fractures of Long Bones of Lower Extremity. J. T. O'Ferrall, New Orleans.—p. 194.

Northwest Medicine, Seattle

October, 1922, **21**, No. 10

General Septic Peritonitis and Its Treatment. A. C. Behle, Salt Lake City, Utah.—p. 361.
Epidermophyton Infection of Skin. J. Butler, Minneapolis.—p. 366.
Abdominal Signs and Symptoms of Thoracic Disease. H. Brooks, New York.—p. 371.
Traumatic Neurosis. G. A. Cathey, Portland, Ore.—p. 375.
Only One Medical Profession. A. Sawins, Spokane, Wash.—p. 377.
Medical Problems and Foreign Trade. R. E. Logsdon, Portland, Ore.—p. 379.

Oklahoma State Medical Association Journal, Muskogee

October, 1922, **15**, No. 10

Differential Diagnosis of Cardiac Arrhythmia Without Use of Electrocardiograph. W. A. Lackey, Oklahoma City.—p. 287.
Mitral Stenosis. L. D. Conn, Morris.—p. 290.
Chemical and Microscopic Diagnosis for General Practitioner. F. T. Gastineau, Pawnee.—p. 295.
Important Factors in Kidney Surgery. J. H. Sanford, St. Louis.—p. 301.
Home Management of Occipitoposterior Position. C. V. Rice, Muskogee.—p. 304.
Use of Hypertonic Salt Solution in Treatment of Lethargic Encephalitis. W. W. Rucks.—p. 308.

Philippine Journal of Science, Manila

July, 1922, **21**, No. 1

Manufacture of Certain Drugs for Treatment of Leprosy. G. A. Perkins.—p. 1.
Manufacture of Industrial Alcohol, and Alcohol Motor Fuel in Philippine Islands. H. I. Cole.—p. 17.
Use of Sulphur Fumes in Copra Drying. A. H. Wells and G. A. Perkins.—p. 49.
Hispines of Old World. V. J. Weise.—p. 57.
Merrillosphaera, New Genus of Volvocaceae. W. R. Shaw.—p. 87.

South Carolina Medical Association Journal, Greenville

October, 1922, **18**, No. 10

Gallbladder Disease. A. J. Buist, Charleston.—p. 281.
Malaria in Childhood. R. M. Pollitzer, Charleston.—p. 285.
Importance of Certain Mastoid and Lateral Sinus Infections Often Mistaken for Commoner General Infections. J. W. Jervey, Greenville.—p. 290.
Creeping Eruption; Case Reports. H. A. Mood, Sumter.—p. 295.
Aortic Insufficiency. J. F. Woods, Charleston.—p. 299.
Cancer from Viewpoint of Pathologist. H. H. Plowden, Charleston.—p. 301.
Hematogenous Infection in Trichophytia. J. R. Allison, Columbia.—p. 304.
Advances in Surgery of Kidney. M. Weinberg, Sumter.—p. 305.
That Scrawny School Child. W. P. Cornell, Columbia.—p. 306.
Osteomyelitis. S. O. Black, Spartanburg.—p. 308.
Roentgen-Ray Examination of Mastoids. F. D. Rodgers, Columbia.—p. 309.
More County Health Departments Needed in South Carolina. L. Banov, Charleston.—p. 310.
Senile Psychosis. B. O. Whitten, Clinton.—p. 312.

Tennessee State Medical Association Journal, Nashville

October, 1922, **15**, No. 5

Principles of Prognosis in Pulmonary Tuberculosis. W. H. Witt, Nashville.—p. 255.
Why Pulmonary Tuberculosis is Not Easily Recognized. W. A. Oughterson, Nashville.—p. 258.
*Congenital Abscence of Rectum with Communicating Sinus Between Bowel and Urinary Tract. O. S. McCown, Memphis.—p. 262.
Physiology of Menstruation. J. F. Gallagher, Nashville.—p. 264.
Radium in Treatment of Menorrhagia and Metrorrhagia, Case Reports. E. T. Newell, Chattanooga.—p. 266.
Acute Mechanical Intestinal Obstruction. R. Caldwell, Nashville.—p. 270.
Treatment of Acute Intestinal Obstruction. L. L. Sheddan, Knoxville.—p. 272.
*Abdominal Pregnancy at Term. H. L. Fancher, Chattanooga.—p. 279.
After Cataract. H. Wood, Nashville.—p. 285.
Foreign Bodies in External Auditory Canal. E. D. Watkins, Memphis.—p. 289.
*Report of Autotransfusion. M. B. Davis, Nashville.—p. 292.

Congenital Absence of Rectum; Sinus Between Intestine and Urethra.—McCown records the case of a male child who on the second day after its birth discharged meconium through the penis. The child was also vomiting. The meconium was discharged independently of the urinary function, which was apparently normal. Examination of the permineum showed a complete absence of the anus. There was no dimple where the anus should have been, and no bulging. A perineal operation was done under ether anesthesia, when the child was forty-eight hours old. No rectal pouch was found. The incision was carried up along the sacral curve to a point slightly below the sacral promontory. Here a soft bulging mass was found. The distance from the skin to this mass was two inches. An aspirating needle was pushed into the mass and meconium aspirated. As much of the contained meconium as possible was evacuated. The bowel was then incised at this point of puncture, and the edges of this incision brought down and sutured to the skin edges of the perineal incision. Nothing was seen of the communicating sinus during the operation. When the child was 9 months old, the anal constriction was so great that McCown cut through the surrounding ring of tissue. There has been little tendency to contract since this was done. The anus has not been dilated in ten months and the opening is not contracting. The child has perfect control. When the child was 27 months of age, a roentgen-ray examination was made. The barium showed the lowest part of the bowel to be almost on a level with the sacral promontory; leaving an inch or more of space between the anal margin and the lowest part of the barium shadow. The examining finger showed that the canal was enlarged between the barium mixture in the bowel and the anal opening. Evidently, there was an entire absence of the rectum, and the sphincter present was only an exaggeration of the normal sphincter muscle which is usually present in some degree at the rectosigmoid juncture.

Abdominal Pregnancy at Term.—Fancher's patient had the usual symptoms of a normal pregnancy and felt movement four and one-half months after last menstruation. From this time on she complained of feeling peculiar and at times would feel faint with rapid heart action. Fetal movements were very pronounced and different from those experienced with former pregnancies. Her breasts filled up and the abdomen became very large, with the greatest enlargement on the right side. At about the time for her delivery, the fetal movements were very active. She never felt any movements after that time. About two weeks later she noticed that her abdomen was smaller and that her breasts, which for a month had been flowing milk, were becoming flabby. She began to have a flow which at times was bright blood and at times was dark and tarry. Sometimes the flow would seem almost like water and an occasional piece of membrane would pass. Up to this time, nine and one-half months from the date of the last menstruation, she had never had a pelvic or abdominal pain and at no time was there any flow from the uterus. Fancher operated. After entering the abdominal cavity a thin membrane was encountered which was incised. Quite a quantity of cloudy, straw colored fluid escaped and a perfectly formed 16 pound fetus was delivered. The bones of the cranium were loose and epithelium was exfoliating. A large placental mass, about 1 inch thick and 12 inches in diameter, was encountered completely enclosed within membranes which were adherent to the sigmoid, the colon, the small intestines and the uterus. Adherent to and extending to the top of this mass was an elongated appendix. The right tube and ovary could not be isolated. Numerous blood vessels of varying size, some as large as a lead pencil, were branching out over this mass from its lower posterior attachments. There was no sign of past hemorrhage in the abdomen or placenta.

Case of Autotransfusion.—Davis' patient sustained a bullet wound at the level of the eighth rib on the left side, 3 or 4 inches from the median line. On opening the peritoneum a large quantity of blood gushed out. The whole peritoneal cavity was apparently filled with blood. This was mopped up with dry abdominal pads and these were then squeezed into a sterile basin into which previously had been placed some citrate solution. More than 600 c.c. of nonclotted blood was obtained in this manner. There was a punctured wound of the spleen which had apparently stopped bleeding probably due to the low blood pressure. The blood that had been recovered from the peritoneal cavity was strained through five or six layers of gauze, saturated in citrate solution, and 600 c.c. was injected into the median basilic vein. Twelve hours after operation the pulse was 82; temperature, 99 F., and for seven days pulse and temperature were virtually normal. On the seventh day following the operation, the wound opened spontaneously. It was resutured. On the ninth day signs of bronchopneumonia on both sides appeared and the man died on the tenth day.

Wisconsin Medical Journal, Milwaukee

October, 1922, **21**, No. 5

Symptomatology and Diagnosis of Renal Tuberculosis. J. C. Sargent, Milwaukee.—p. 172.
Treatment of Empyema. J. B. MacLaren, Appleton.—p. 178.
*Goiter. Reports of Examination of 1,425 Students. J. G. Taylor, Milwaukee.—p. 181.

Incidence of Goiter Among Students.—All the 1,425 students examined by Taylor were girls ranging in age from 12 to 22 years. Tremor and trachycardia were present in 27 per cent. of the cases; exophthalmus in 0.8 per cent. The right lobe was involved in 7.7 per cent.; the left lobe in 2.8 per cent.; the isthmus, in 52 per cent., and the whole gland in 40 per cent. Thirty-seven per cent. of the students coming from Wisconsin had enlarged thyroid. Among students coming from other states the incidence was: Missouri, 36 per cent.; Michigan, 34 per cent.; Minnesota, 32 per cent.; Indiana and Illinois, 30 per cent.; Iowa, 27 per cent.; Arizona and Nebraska, 25 per cent.; Ohio, 22 per cent.; South Dakota, 20 per cent.; North Dakota, 17 per cent.; Tennessee, 12 per cent.; Mississippi and Montana, 10 per cent.; Pennsylvania, 8 per cent., and Colorado, 7 per cent. None of the students from Kentucky, Texas, Kansas, New Hampshire, Alabama, Massachusetts and New Mexico presented any evidence of thyroid enlargement.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

September, 1922, **27**, No. 4

Normal Stomach. A. E. Barclay.—p. 103.
Cascade Stomach. J. H. D. Webster.—p. 110.
Radium Therapy of Cancers. P. S. Laborde.—p. 114.
Penetrating Radiotherapy by Roentgen Rays and Radium. R. Proust. —p. 121.

British Journal of Psychology, London

July, 1922, **2**, No. 4

Constituents of Unconscious. L. Williams.—p. 259.
Search for Kingdom. A. Carver.—p. 273.
Study of Phobia. S. E. Hooper.—p. 292.
Personal Experience of Night Journey Under Sea. J. Corrie.—p. 303.

British Medical Journal, London

Oct. 21, 1922, **2**, No. 3225

Medicine in Century Before Harvey. A. Chaplin.—p. 707.
An Address on Past, Present and Future of Midwifery. B. P. Watson. —p. 712.
*Bacteriology and Vaccine Treatment of Chronic Bronchitis. L. Mackey. —p. 715.
*Surgery on High Seas. A. E. Crabbe and L. R. Broster.—p. 717.
Similarities and Dissimilarities Between Plant and Animal Diseases. V. H. Blackman.—p. 718.
On Mutation of Species. W. B. Brierley.—p. 722.
*Outbreak of Food Poisoning by Milk, Caused by Bacillus Aertrycke. W. R. Wiseman.—p. 728.
Toxin of B. Dysenteriae Shiga. R. C. Robertson.—p. 729.
Development of Loa Loa in Chrysops. A. Connal and S. L. M. Connal. —p 730.
Intimate Structure of Bacterial Cell. D. Ellis.—p. 731.
Clinical Differentiation of Pulmonary Tuberculosis from Other Respiratory Affections. E. Rist.—p. 733.
Share of Sun in Prevention and Treatment of Tuberculosis. A. Rollier. —p. 741.
Some Aspects of Treatment of Surgical Tuberculosis. J. Taylor.—p. 746.
Basal Metabolism. E. P. Cathcart.—p. 747.
Diazo Reaction, with Special Reference to Urine in Measles. G. Hunter. —p. 751.
Etiology of Seborrhea and Seborrheic Dermatitis. R. C. Low.—p. 752.
*Melanotic Sarcoma of Choroid and Ovary. H. G. W. Dawson.—p. 758.
Lupus Erythematosus Treated by Diathermy. W. J. Harrison.—p. 759.

Bacteriology and Vaccine Treatment of Chronic Bronchitis.—In 130 cases, Mackey found germs in the sputum which seemed of sufficient importance to be incorporated in a vaccine. In about one half the cases the infection was a mixed one. On the whole, these vaccines were so successful that Mackey is forced to the conclusion that the cause of bronchitis, and also of some types of asthma, is to be traced to an infected state of some part of the nasal passages.

Surgery on High Seas.—Crabbe describes an operation performed on board ship for urinary obstruction due to prostatic enlargement. There was a woful lack of every need for an operation of this sort. The patient stood the operation well, but died two days later. The prostate consisted of a mass of small stones embedded in tough fibrous tissue with practically no gland substance present. As a sequel to the post-mortem examination, which of necessity was performed without gloves, the operator pricked himself in sewing up the wound. No local reaction asserted itself, but within twenty-four hours he experienced "shivery muscular pains" which were followed by a rise of temperature to 103 F. and profuse sweating, on three successive evenings, and then the passage of pus in the urine. The latter showed *Bacillus coli* on bacteriologic examination.

Bacillus Aertrycke Causes Poisoning.—Wiseman describes an outbreak of food poisoning in which fifty-two persons of ages ranging from 14 months to 83 years were poisoned. Cow's milk was the food taken but the actual source of the cantamination was not discovered. Two distinct types of *B. aertrycke* were found, (1) the Mutton type, and (2) one closely approximating to the Newport type, and probably identical with it.

Melanotic Sarcoma of Choroid and Ovary.—In Dawson's case fourteen years elapsed between the first onset of the disease (the primary growth of the choroid) and the appearance of secondary growths in the skin and ovary. There was no lymph gland involvement and absence of any further trouble nine months after excision of a tumor on the back one on the arm, and the removal of the affected eye and ovary.

Glasgow Medical Journal

October, 1922, **16**, No. 6

*Two Cases of Syphilis of Liver with Symptoms of Abscess Formation. W. K. Hunter.—p. 225.
Influenza. A. Garvie.—p. 232.

Syphilis of Liver with Unusual Symptoms.—Hunter relates the case of a man who had jaundice and "ague." The case at first was thought to be possibly one of malaria, but examination of the blood films on five different occasions failed to show any sign of the plasmodium, and the leukocyte count, which ranged from 9,000 to 11,500, showed only 8 per cent. mononuclear cells, with 92 per cent. polymorphonuclears. Also, there was no response to large doses of quinin given over a period of three weeks. Two or three weeks after admission, the upper margin of hepatic dulness was noted to be irregular in outline, and it was now thought that there might be a hepatic abscess. There were signs, too, of infection of the lungs, there being lack of resonance, with crackling râles, at both bases behind. Three weeks after admission, the Wassermann reaction was taken, and it proved to be strongly positive. Within three days of giving antisyphilitic treatment, the fever disappeared and the patient's convalescence became established. The dulness at the bases of the lungs persisted for three weeks longer, but ultimately disappeared entirely. The second case was that of a man who complained of pains in the upper part of the abdomen of one week's duration. He had been quite well prior to this, when he was suddenly seized with severe abdominal pain and vomiting. This pain had persisted for a week, although not so acute as at first, but sufficiently severe to keep him from sleeping. The vomiting was incessant for four days, and was followed by hiccough, which lasted for three days. The patient's previous health had been good, except that two years ago he had a somewhat similar attack of pain and vomiting, which lasted for three days. There was no history of dysentery. It was thought that there was probably a subphrenic inflammation of some sort. There was, however, no evidence by which the source of infection could be determined. A Wassermann test proved to be strongly positive. Antisyphilitic treatment resulted in good recovery.

Journal of Obstetrics and Gynæcology of the British Empire, Manchester

Autumn Number, 1922, **29**, No. 3

*Eclampsia. T. W. Eden.—p. 386.
*Relationship of Eclampsia to Other Toxemias of Pregnancy. G. FitzGibbon.—p. 402.
*Results of Treatment of Eclampsia by the Dublin Method. B. Solomons. —p. 416.
Treatment of Eclampsia by Veratrum Viride. T. G. Stevens.—p. 426.
Case of Eclampsia Illustrating Use of Veratrone. A. Bourne.—p. 432.
Radium: Ideal Palliative Treatment in Inoperable Cases of Uterine Cancer and in Cases of Recurrence After Operation. C. Jacobs.—p. 437.
*Endometrioma and Endometriomyoma of Ovary. W. B. Bell.—p. 443.
*Adenomyoma of Rectovaginal Space and Its Association with Ovarian Tumors Containing Tarry Material. A. Donald.—p. 447.
*Adenomyoma of Rectogenital Space Associated with Tarry Cysts Arising in Islands of Adenomyomatous Tissue in Ovary. W. F. Shaw and W. R. Addis.—p. 452.

Eclampsia.—Eden emphasizes the fact that it is easier to prevent eclampsia than to cure it. Prophylaxis is, therefore, all important. A case of eclampsia is not a case for domiciliary treatment; prompt removal to hospital is the first indication after a fit has occurred. A simple classification of cases into "mild" and "severe" would facilitate treatment and make clinical records of much greater value. All cases of eclampsia, whether mild or severe, are best treated with the minimum of obstetric interference. Simple medical treatment, carefully regulated and closely watched, gives the best results.

Treatment of Eclampsia by Elimination.—FitzGibbon employs the treatment carried out in the Rotunda Hospital which was introduced by Tweedy in 1903, except that he does not use morphin. The treatment is based altogether on elimination. Among 214 cases of exclampsia treated in the

Rotunda Hospital in twenty years, there were nineteen deaths, a mortality rate of 8.87 per cent., which includes the death of any woman who suffered from eclampsia, irrespective of the actual cause or time of death.

Id.—There is no doubt whatever, says Solomons, that the death rate from eclampsia can be kept at a lower level by following closely the treatment as suggested by Tweedy, especially watching the patient closely for any sign of interference with respiration by mucus. It is also beyond doubt that the practitioner must meet with some cases so saturated with this pseudo-acidosis that recovery is impossible, but the number of these would be greatly diminished were routine general examination insisted on, especially monthly examination of the urine for the first seven months, then fortnightly until the end of pregnancy. The general practitioner requires further education on this point.

Endometrioma and Endometriomyoma.—For the terms "adenomyoma" and "adenofibromyoma" Bell would substitute "endometrioma" or "endometriomyoma" and "endometriofibromyoma" because the older nomenclature is inaccurate in that functional endometrium, not merely glandular tissue, is always found in these tumors during the reproductive period. The appearance of a functional structure, such as endometrium, in abnormal situations, can only result from congential aberration when not due to direct contact; and this is easily possible in the case of ovarian inclusions of endometrium by way of the ovarian ligament, or even by intermixture of Müllerian and ovarian elements, in the intermediate cell mass, at an early stage of development. Bell cites a case in which it was possible to demonstrate the presence of endometrium in both ovaries associated with a normal uterus and normal tubes.

Adenomyoma of Rectovaginal Space.—If, in any case, distinct indications of rectovaginal adenomyoma are found, Donald says, it will be well to bear in mind the fact that there is a probability of both ovaries being affected, and that, therefore, the patient ought to be informed before operation, that both ovaries may have to be removed. In any operation at which the ovaries are found to contain tarlike contents, a very careful investigation for adenomyomatous growths in other parts of the pelvis ought to be undertaken at the time of operation. Ten cases of adenomyoma of the rectovaginal space are reviewed by Donald. In seven of the ten cases cystic ovarian tumors containing tarry or chocolate contents were found.

Adenomyoma of Rectogenital Space.—Shaw and Addis review six cases of adenomyoma of the uterus, five of which were associated with tarry cysts of the ovaries. Endometrial tissue could be demonstrated in the ovaries in most of the cases.

Lancet, London

Oct. 21, 1922, **2**, No. 5173

Medicine in Century before Harvey. A. Chaplin.—p. 843.
*Multiple Peripheral Neuritis. W. Harris.—p. 849.
Pathology of Miners' Phthisis. W. E. Gye and E. H. Kettle.—p. 855.
*Later Effects of Gas Poisoning. T. W. Sandall.—p 856
*Acute Suffocative Edema of Lungs. W. J. Tyson.—p. 859.
*Primary Phlegmonous Enteritis. E. E. Hughes.—p. 860.
*Loss of Weight in Cases of Artificial Pneumothorax. L. S. T. Burrell, and M. Y. Garden.—p. 861.
Paroxysmal Tachycardia Controlled by Parathyroid Gland Tissue. B. G. Corney.—p. 863.
Inoperable Carcinoma Cervicis: Treated with Colloidal Copper and Colloidal Manganese. S. S. Barton.—p. 864.
Certain Renal Storms and Their Interpretation. W. B. Cosens.—p. 864.

Multiple Peripheral Neuritis.—The differential diagnosis of polyneuritis, Harris says, is sometimes extremely difficult from acute poliomyelitis and from Landry's paralysis. The separation from poliomyelitis in some cases is all the more difficult because of the combination of the two conditions that occasionally occurs. Paresthesia and peripheral anesthesia will probably indicate the presence of polyneuritis in a doubtful case, while an extensor plantar reflex will be evidence of cord involvement. Asymmetry of the paralysis certainly does not exclude polyneuritis, and wasting of the intrinsic musculature of the hands is also common in polyneuritis, and retention of the knee jerks is by no means rare. Sphincter paralysis is rare in both poliomyelitis and polyneuritis, but is occasionally met with in both these diseases. The differences in extent of involvement of the sensory nerves, on the one hand, and the motor nerve fibers, on the other, in polyneuritis is remarkable, though not constant for the same toxic cause. Lead is almost purely a motor nerve poison, but diabetes may cause extremely painful local neuritis, or generalized sensory symptoms and ataxy, without any pain. No sensory symptoms whatever occurred in the case of carbon bisulphid polyneuritis seen by Harris. Rheumatic forms of neuritis are usually very painful, so are the alcoholic forms, tuberculous neuritis of the feet, and the neuritis of malignant disease. Hematoporphyrinuric neuritis is also generally painful, though other forms of autotoxemic polyneuritis may show little or no sensory involvement, and may thus be mistaken for poliomyelitis or Landry's disease. A not irrational view, in Harris' opinion, is that which regards polyneuritis and poliomyelitis as essentially the same process affecting different portions of the same neuron, and there can be no doubt that occasionally mixed cases are met with of permanent cord damage, associated with polyneuritic symptoms in which recovery occurs.

Late Effects of Gas Poisoning.—In nearly half the cases (46 per cent.) investigated by Sandall there is evidence of emphysema or chronic bronchitis or both. In his opinion pulmonary tuberculosis is not a common effect of gas poisoning, and certainly not one of its later effects. In nearly half the cases (45 per cent.) there is definite tachycardia. In 85 per cent. of these tachycardia cases no sign of anything abnormal was found on examination of the heart. The persistence of gastric symptoms raises the question of organic or functional causation. Another interesting point is the pain in the chest of which complaint is so frequently made. Is such pain any evidence of myocardial involvement, or is this also merely a functional manifestation? With reference to prognosis, more especially in those cases in which physical signs are absent or very indefinite, Sandall asks, does the element of "pension" operate as a factor in the causation or continuance of symptoms?

Acute Suffocative Edema of Lung.—Tyson asserts that these are really cases of aborted pneumonia, in which the congestive stage is fully developed and then the disease stops, being relieved by the escape of the collected serum, to end either in rapid recovery or in rapid death. The consolidation of the lung is not often demonstrated, but the signs of acute congestion are present. In his case, which is cited, only one lung was attacked, and herpes on the lips was present, both symptoms suggesting a pneumonic origin. Influenza seems to favor this condition, being the starting point of the pneumonia in two or three cases recorded—in Tyson's case an influenza epidemic was present in the district where the patient lived. Immediate venesection is the treatment generally recommended, together with outward applications, such as wet cupping and mustard plasters. Morphin, iodids, or blisters should not be used in the treatment of these cases, for obvious reasons.

Primary Phlegmonous Enteritis.—Hughes' patient was only 6 years of age. The length of intestine affected was about 18 inches, and the distal limit of the disease was apparently about 8 inches from the ileocecal valve. It was excised. The boy made a good recovery.

Loss of Weight in Artificial Pneumothorax.—In artificial pneumothorax treatment, as a rule, when this treatment is started, there is a drop in weight for the first few weeks. Burrell and Garden believe that this loss can be explained on the basis of an impaired metabolism; efficient aeration of the blood becomes more difficult. The diminished oxygen concentration of the blood apparently causes an inefficient combustion of carbohydrate and fats. A consequent demand on the body fats is made by the liver. These respond with great readiness and there is a tendency to fatty infiltration of that organ. As treatment continues, however, the uncollapsed lung seems to be able to accommodate itself to the altered conditions and to carry on oxygenation of the blood more fully; metabolism becomes more stable, and the patient begins to put on weight if his muscular activities are restricted.

Annales de l'Institut Pasteur, Paris

August, 1922, **36**, No. 8

*Vaccination by the Mouth Against Dysentery and Malta Fever. C. Nicolle and E. Conseil.—p. 579.
Eruptive Disease in Goats. G. Blanc et al.—p. 614.
Action of Sodium Aminophenolarsenate in Experimental Trypanosomiasis. A. Navarro Martin and G. J. Stéfanopoulo.—p. 619.

Preventive Vaccination by the Digestive Tract Against Bacillary Dysentery and Malta Fever.—Nicolle and Conseil comment on the progress realized by Besredka's success in reproducing in animals the disease being studied in a form close to the natural human disease. Conditions were thus provided for study of the action of preventive vaccination (Besredka's bile method). This was impossible before, as it was deemed out of the question to experiment on human beings, and the disease in animals had never before approximated the human affection. His success in this line and in the application of the data thus obtained to protect human beings during an epidemic of typhoid has already been mentioned in THE JOURNAL, as on page 1446, Oct. 21, 1922.

Nicolle and Conseil have experimented directly on human volunteers, selecting two diseases which yield promptly to curative serotherapy and are thus free from danger; namely, bacillary dysentery and undulant or Malta fever. These two diseases represent two widely different types. The dysentery bacillus settles exclusively in the bowel, while the bacillus of Malta fever invades the blood and may enter by way of the skin or mucosa as well as by the digestive tract. There have been eight cases of the disease in the personnel of the laboratory (Tunis) since its foundation. The experiments related have demonstrated that it is possible to immunize against these two diseases by subcutaneous injection of the vaccine or by ingestion by the mouth. After thorough preventive inoculation by either of these routes the subject bore without reaction injection of living Malta bacilli, or ingestion of living dysentery bacilli. They add that the results obtained with equal success in these widely different diseases justify the assumption that this method of prophylaxis has a broad application, especially for diseases which localize in the bowel, such as typhoid, paratyphoid and cholera.

An important practical point brought out by the research reported is that the reason why previous experiments have so often failed is because the factor of race was not taken into account. The natives of Tunis had proved refractory to immunization procedures, and hence the question was regarded as settled in the negative. But as soon as Europeans were tested, the prompt and intensive response showed that the difference was racial. That is, the persons accustomed to polluted water supplies become naturally immunized in time. Hence their negative reaction. Nature thus points the way to effectual vaccination by the digestive tract against certain diseases.

Archives Médicales Belges, Liége

September, 1922, **75**, No. 9

The Ante-Allergia Period in Tuberculosis. L. Dautrebande.—p. 857.
*Extragenital Chancres. C. F. White et al.—p. 908.
*Cicatricial Stricture of the Esophagus. C. Goris.—p. 914.

Extragenital Chancres.—White, Vanhaecke and Dujardin are in charge, respectively, of the English, French and Belgian antisyphilis centers at Havre, and in their war and post-war service they have encountered a total of 227 cases of extragenital chancres. They remark that the discrepancies in proportions given in various statistics are due mostly to errors of diagnosis. They conclude that missed syphilis due to extragenital localization reaches nearly 5 per cent. of the total number of chancres in the army. The opinion of others here mentioned confirms their own to the effect that chancre of the tonsils is the extragenital localization which is the more often undetected, and constitutes one of the principal causes of missed syphilis.

Cicatricial Stricture of the Esophagus.—Goris gives the details of three cases of cicatricial stricture of the esophagus successfully treated by dilatation with the bougie No. 15, and sawing a silk thread back and forth, Depage's olives strung on the thread. He has thus succeeded in curing all of his twelve cases in children and adults in which the esophagus seemed to be permanently closed.

Bulletin Médical, Paris

Oct. 14, 1922, **36**, No. 42

*Myoma of Pylorus in Infant. Aviragnet and Peignaux.—p. 817.
*Icterus Gravis. F. Saint-Girons.—p. 818.
Treatment of Furunculosis. Veyrières.—p. 821.
Internal Secretions. A. C. Guillaume.—p. 824. Conc'n.

Hypertrophic Stenosis of the Pylorus.—Aviragnet and Peignaux report a case of myoma of the pylorus in a 6 weeks old infant and emphasize the importance of early diagnosis. It is surgically curable if the operation is made before athrepsia begins. The bases of clinical diagnosis are daily vomiting in a 3 or 4 weeks old babe notwithstanding the change of food, and measures to combat the vomiting, stubborn constipation, progressive and rapid emaciation, and extreme peristalsis in the epigastric region. Roentgen-ray examination is important to ascertain that the obstruction is in the pylorus and not purely of spasmodic nature. The extra-mucosa longitudinal pylorotomy is simple, effectual and rapid. In their case recovery was prompt and complete, and at the eighth month the weight was normal.

Icterus Gravis.—Saint Girons describes the various types of icterus gravis and states that its diagnosis is impossible during the preicteric phase, but is easy when the syndrome is complete. All laboratory means, serodiagnosis, hemoculture, etc., to reveal or exclude spirochetal jaundice should be employed. The etiologic diagnosis is, on the contrary, easy, as a rule, in secondary infectious icterus gravis, toxic icterus and especially in icterus appearing after disease of the liver. This diagnosis may have a practical interest in many cases for the environment, in the matter of prophylactic measures to be taken. It may also indicate the need of serotherapy or vaccine therapy for the subject, as icterus gravis is not always fatal, and energetic treatment compatible with the patient's condition should always be instituted.

Journal de Chirurgie, Paris

September, 1922, **20**, No. 3

*Repair of Bile Duct. P. Lecène and Gaudart d'Allaines.—p. 237.
*Transplantation of Bone in Hand. L. Michon.—p. 260.

Repair of the Common Bile Duct.—Lecène and d'Allaines give summaries of fifty-two cases from the records in which a rubber tube has been used to restore the continuity of the common bile duct, either by drawing up and suturing end-to-end the stumps of the severed duct over the rubber tube, or by implanting the stump of the duct in the duodenum or stomach, after pushing the rubber tube into the duct. The mucous membrane of the bowel or stomach can be drawn up and sutured around the stump of the duct, or it can be left without being sutured. Of all these methods the latter technic seems to be the best, giving 70 per cent. complete cures in the twenty-three cases in the literature. It restores the continuity of the passage even after extensive loss of substance, while it has the further advantage that it requires the minimum of operative manipulation. As a rule, the tube is expelled between the tenth and fifteenth day, either with the stools or by vomiting. In many cases its expulsion was not even noticed, and no accidents have ever been recorded. Of the 23 cases, 10 were for biliary fistula, mostly old cases, and some had already been operated on. It seems that in such cases, in which operation is most difficult, this third method is almost always preferable. Recovery after the operation is smooth, as a rule. The stools regain rapidly their color, sometimes in seven or eight days. The bile often oozes through the wound during the first days, but it stops rapidly thereafter. Of the 4 cases of death reported with this method, one was due to hemorrhage the twelfth day, one to angiocholitis with abscess of the liver seven months later, and the 2 others were not due to the operation. There were 14 cases of a complete cure in the 23 operations of this kind, that is, 70 per cent. It appears from examination of the various cases published, that prosthesis by means of a rubber tube is an important acquisition in this difficult type of surgery. Direct suture is often a useful adjuvant but is not indispensable, and the surgeon should not hesitate to omit it if its use entails complicated and dangerous maneuvers. The omentum should be drawn up and sutured around the bile duct as this aids in the reconstruction of the duct. The cases

already published allow the conclusion that such operations give very good results in particularly difficult cases. The only two dangers to fear are stenosis at the site of the suture, and ascending infection of the biliary apparatus. Time and experience will show the extent of these dangers.

Transplantation of the Bones of the Hands.—Michon reports his experimental and clinical study of partial or total replacement of metacarpal bones and phalanges after destruction or removal. He gives his results from experiments on dogs and draws conclusions from a practical standpoint. The absence of publication of the remote results in various cases appearing in the literature destroys all interest in these observations. He concludes from his various experimental bone transplantations that whole bone grafts die and are doomed to absorption. Parts of bones implanted in the natural bone heal in place with newly regenerated bone, as can be seen in the serial roentgenograms from a clinical case reexamined at intervals for nearly four years. The grafted metatarsal bone in the hand has now become normally opaque by the osteogenesis process.

Néoplasmes, Paris

September-October, 1922, **1**, No. 5

*Catalytic Activity of Tissues and Body Fluids. J. Thomas.—p. 145.
*Myxomas. G. Bolognesi.—p. 153.
*Origin of Cancer. M. Guérin.—p. 167.

Catalytic Action of Tissues and Body Fluids.—Thomas was impressed with the extreme variability of the catalytic ferment content in different species and in different individuals, and in the same individual at different times. No characteristic findings could be discovered, but the catalytic property was less with lowering of the vital processes in general.

Myxomatous Metamorphosis of Tumors.—Bolognesi's seven photomicrograms show the different varieties of pure myxomas and myxomatous transformations of other tumors. He theorizes to explain the mechanism.

Origin of Cancer.—The editors of *Néoplasmes* asked their readers to send in a 30-line summary of their views as to the origin of cancer. Guérin insists that we must recognize an infectious origin for some cancers, irritation or trauma for others, and an embryonal origin in still others. Cancer is thus merely a mode of reaction of the tissues, and the cancer cell becomes anarchistic, existing only in and for itself. This idea that the cancer cell is a parasite of the organism should dominate all measures for treatment. The normal balance of reaction between the cells is upset for some reason. This upset in the intercellular reactions may be due, he says, to some change in what he calls the *suspension colloidale nucléoprotoplasmique* of the cell. This modification seems to be an increased dispersion. This entails intensification of the catalytic phenomena, cell changes and karyokinesis.

Paris Médical

Sept. 2, 1922, **12**, No. 35

*Ophthalmology in 1922. F. Terrien.—p. 197.
*Warning of Danger to Optic Nerve. A. Cantonnet.—p. 206.
Oculomotor Lesions in Epidemic Encephalitis. G. Cousin.—p. 207.
*Otorhinolaryngology in 1922. L. Dufourmentel.—p. 209.
Origin of Mastoiditis. P. Sebileau.—p. 214.
*Treatment of Adenoid Vegetations. L. Baldenweck.—p. 219.
Stomatology in 1922. P. Fargin-Fayolle.—p. 222.
*Correction of Ankylosis of Jaws. M. Darcissac.—p. 227.

Recent Progress in Ophthalmology.—Terrien discusses the publications on ophthalmology which have a bearing on general pathology and thus interest the practitioner. Three writers have published cases of a glaucomatous form of sympathetic ophthalmia. One (Dor) reported the cure of sympathetic ophthalmia under 12 gm. of sodium salicylate daily. Others have lauded arsphenamin treatment as giving the best results when the sympathetic affection is developing, but, even at the best, Morax says, its efficacy is only relative. Charlin found syphilis in 20 out of 24 persons under 50 with glaucoma. It was unmistakable also in 35 of 75 of all ages, and probable in 7 others. In the 42 glaucoma cases in syphilis there was aortitis in 32 and general high blood pressure in 28. In 2 of the younger men the glaucoma was cured by treatment for syphilis, although nothing abnormal except the glaucoma could be discovered in the eyes. In 25 nonsyphilitics, all over 50, the blood pressure was high. He affirms that glaucoma in 90 per cent. of the cases must be regarded as the localization in the eye of some general vascular process. Its other manifestations are aortitis, arterial hypertension and chronic nephritis. Abadie has also reported recently the cure of glaucoma under treatment for syphilis in subjects between 30 and 40. Bailliart warns that the spontaneous arterial pulse, noted in 19 per cent. of the cases, indicates some pronounced disturbance in the circulation in the retina. Magitot was able to reduce the tension in the eyes of rabbits by intravenous injections of hypertonic solutions. Terson succeeded in reducing the tension in a case of glaucoma by periocular injection of 2 c.c. of air. The man had been operated on for glaucoma and it had recurred, causing total blindness in the previously better eye. A few days after the injection, the man was using the eye in reading.

Transient Clouding of Vision as Warning Sign.—Cantonnet has been impressed by the suddenness with which blindness may develop in cases of choked disk which had long been apparently well tolerated. Analysis of such cases shows, he says, that there had been for some time fleeting phases of *obnubilations visuelles*, as if a veil had been drawn over the entire visual field, for five to thirty seconds, recurring often, up to 100 or 200 times a day. Severe headache plus this fleeting clouding of vision calls for prompt measures to relieve the pressure on the optic nerve, or sudden permanent blindness may follow. Repeated lumbar puncture or a decompressive operation is imperative when the optic nerve thus warns of impending degeneration.

Otorhinolaryngology in 1922.—Dufourmentel notes the reappearance of the French *Annales* and the *Archives* and the continuance of the *Revue* and the *Bulletin* for these specialties, and also the Lyons *Oto-rhinolaryngologie internationale*—thus restoring the five French journals for the ear, nose and throat specialties to their prewar status. The verdict on vaccine therapy at the various congresses seemed to be that it gives excellent results in recurring furunculosis and with phlegmons in the tonsils. It is a valuable adjuvant in recurring coryza, ozena, tubal otorrhea and mucopurulent rhinopharyngitis. It is useful also in certain cases of chronic sinusitis, the ethmoidal in particular, provided there are no osteitic lesions or polyps. It may prove useful to supplement operative treatment in mastoiditis and sinusitis, but it is futile in chronic otitis with bone lesions, and it may be directly dangerous in acute disease of the middle ear. Radiotherapy has given some encouraging results but has not fulfilled the enthusiastic hopes based on it a while ago. Another point brought out by congress reports is that latent sinusitis is far more frequent than generally recognized, and that this is the explanation of many cases of rebellious headache. Lermoyez has reported the cure of an epithelioma of the larynx under deep radiotherapy.

Adenoid Vegetations and Tonsillitis.—Baldenweck protests against operations on the throat and nose of outpatients.

Ankylosis of the Jaw.—Darcissac's apparatus has a rubber cap which fits over the teeth from side to side on each jaw. The two long caps are held in an adjustable frame which allows the application of force in various directions to overcome the ankylosis or prevent its development after an operation.

Presse Médicale, Paris

Oct. 14, 1922, **30**, No. 82

*Effect of Irradiation on the Blood. M. Giraud et al.—p. 885.
*Sodium Citrate to Arrest Hemorrhage. L. Cheinisse.—p. 887.

The Hemoclastic Crisis After Intensive Roentgen-Ray Exposures.—The experimental research here reported has apparently established that the drop in the number of leukocytes and the other features of the hemoclastic crisis after intensive irradiation are due to the reaction of the tissues directly irradiated. The hemoclastic crisis did not occur if the part irradiated was shut off from the general circulation. But it developed when the obstruction to the circulation was removed, even after the roentgen rays had been shut off. The substances producing the shock, manifested by the hemoclastic crisis, are evidently generated in the irradiated

area. There is thus a kind of indirect autoprotein therapy, which may supplement the beneficial influence of the rays in other lines.

Intramuscular Injection of Sodium Citrate to Arrest Hemorrhage.—Cheinisse recalls Hédon's protest in 1918 against the assumption that sodium citrate always prevents coagulation of the blood. In his experiments on rabbits it retarded coagulation after transfusion, but in dogs it accelerated coagulation. In his publication on the subject he remarked that the species of the animal and the amount of sodium citrate used are evidently the factors responsible for the variability of the response. Cheinisse then summarizes the work of the Americans in this line, and adds a word of caution against accepting without further research the statements of Neuhof and Hirshfeld on the intramuscular administration of sodium citrate as a means to control bleeding.

Progrès Médical, Paris

Sept. 30, 1922, **37**, No. 39

*Endemic Influenza and Tuberculosis. G. Ichok.—p. 453.
Calculi in Bladder After Prostatectomy. Legueu.—p. 454.
Azotemia in Nephritis. Merklen.—p. 456.
*Traumatism and Gestation. Couvreux.—p. 459.
Melancholia Without Delirium. R. Benon.—p. 460.

Endemic Influenza and Tuberculosis.—Ichok gives a table showing the mortality due to pulmonary tuberculosis and influenza in Paris during and before the epidemics of influenza from 1900 to 1920, and he draws from it conclusive proof that the tuberculous have reason to fear grippal infection, as it may be the last straw that breaks down the barrier against a fatal outcome.

Traumatism and Gestation.—Couvreux draws medicolegal conclusions from accidental and surgical traumatism during pregnancy. When gestation is normal, the evolution of lesions due to accidental injury appear to be analogous to the lesions of a nongravid woman, and the accident, as regards future consequences, should be considered identical to an accident occurring to a healthy subject. On the contrary, pathologic gestation, with the morbid condition of the woman aggravating the evolution of the accident, should be considered as an industrial accident if it happens to a subject, who, previous to the lesion, had pathologic antecedents such as tuberculosis, diabetes or albuminuria. On the other hand, if an industrial accident requires surgical intervention, an emergency operation may be performed on the pregnant woman, provided that morphin is used beforehand to calm the uterus, and also during the days following the operation.

Schweizer Archiv f. Neurol. u. Psychiatrie, Zurich

1922, **11**, No. 1

Attention in Mental Pathology. W. Boven.—p. 3.
Psychanalysis of Dreams. A. v. Muralt.—p. 13.
*Clinical Sequelae of Epidemic Encephalitis. F. Naville.—p. 34.
*Autonomic Nervous System in Voluntary Movements. Di T. Terni.—p. 60.
*Rays from Human Body. S. Alrutz.—p. 88. Conc'n.
Diffuse Reactive Gliomatosis. J. L. Pines.—p. 112.
Sensations from Standpoint of Speech. C. v. Monakow.—p. 118.

Sequelae of Epidemic Encephalitis.—Naville started to present the complete picture of what is known to date of the present clinical condition of persons who have had epidemic encephalitis. He decided that the time has not come yet for this. It is still premature to write a general review of the sequelae of this disease. The remote prognosis is very grave, as sudden and serious clinical manifestations may develop after a long period of apparent complete recovery. The future alone will tell the ultimate course of the mental impairment and parkinsonian states, and whether other tardy complications are to be feared, supplementary to those that have been observed during the eighteen months that have followed the onset of the epidemic. His article is dated November, 1921. (In French.)

Participation of Involuntary Nervous System in Voluntary Muscle Movements.—Terni's research was on the anatomy of the tails of lizards and other reptiles.

Effluence or Radiation from the Human Body.—Alrutz's statements are sustained by the cases illustrated—all testifying, he says, to a kind of radiant energy generated by the human body. The tests of it were made on subjects in a light hypnotic slumber. The muscle or tendon contracted or extended under the influence or energy emanating from the experimenter's finger tips pointed toward the spot without actual contact. The article is in French. Alrutz is lecturer on psychology at the University of Upsala, and has been collecting data for years on the dynamics of the nervous system. A fuller description of what he calls this "new form of radiation from the human organism" was published in THE JOURNAL, March 22, 1919, p. 906. He declares that it throws much light on hypnosis and hysteria.

Chirurgia degli Organi di Movimento, Bologna

October, 1922, **6**, No. 5

*Ossification of the Acetabulum. G. Perna.—p. 485.
*Köhler's Disease. O. Alberti.—p. 569.
*Traumatic Dislocation of Hip Joint. F. Maffei.—p. 604.

Ossification of the Acetabulum.—Perna discusses in particular the significance of the tuberosity above the acetabulum. It is found only in man, and he explains its importance for the erect position.

Köhler's Disease.—Alberti's six cases illustrate the variety of factors that may be involved in this metatarsal affection. The radiographic findings are important not only in diagnosis but as a guide to treatment and for medicolegal certificates.

Traumatic Dislocation of Hip Joint in Children.—There were only eleven girls among the forty-nine cases Maffei has compiled. Reduction is generally easy in recent cases, but in none of those compiled was it possible after the twentieth day. In old cases, insistence on attempts at reduction may fracture the bone. In operating, ample access to the head and acetabulum should be insured. Fixation in plaster is imperative, he says, after reduction, with or without operative measures. The return of the dislocation in two of the cases was explained by the discarding of the plaster apparatus too soon.

Pediatria, Naples

Oct. 1, 1922, **30**, No. 19

*Internal Leishmaniasis. M. Mallardi.—p. 889.
*Immunization Against Measles. P. Galli.—p. 898.
*Hydronephrosis in Children. G. Schiano.—p. 905.

Treatment of Internal Leishmaniasis.—Mallardi tabulates the data from 77 cases of kala azar in children treated with antimony and potassium tartrate by the vein, or a preparation of it that can be injected intramuscularly. The efficacy of this treatment is becoming more and more apparent as the parents bring the children for treatment in an earlier stage. All recovered except 11 practically moribund when first seen, including 2 of the 10 less than a year old. With doses of 0.03 or 0.04 gm. for children under 3 and never over 0.04 or 0.05 for older children, a cure can be counted on in about three months. Most of the children were treated as outpatients, including all the infants.

Immunization Against Measles.—Galli relates that 6 of the 12 children in the children's asylum in his charge developed measles within eight days. The others were given an injection of diphtheria antitoxin, and none in this group developed measles although in constant contact with the measles cases. In another pavilion with 36 girls, 3 developed measles at about the same time. The 24 who had never had measles were then injected with 5 c.c. of normal horse serum, and none developed measles except 3 who were already in the incubation stage at the time. He discusses the attempts at immunization against measles with convalescents' serum in various countries, and suggests that the parenteral protein therapy of the horse serum and antitoxin may be credited with the prophylactic action in his experience. Cenci reported in 1906 an epidemic of measles in which he found that the course of the disease was attenuated and shortened by treatment with diphtheria antitoxin.

Hydronephrosis in Children.—Schiano reports a case of acquired hydronephrosis of the right kidney in a girl of 9. Recovery was prompt after abdominal nephrectomy.

Policlinico, Rome

Sept. 1, 1922, **29**, Medical Section No. 9

*Recent Research on Aphasia. G. Mingazzini.—p. 467.
*Hemiatrophia of the Brain. C. Todde.—p. 488.
The Pulse wth Pulsating Exophthalmos. O. Margarucci and A. Giannelli.—p. 496.
*Taste Tests in Facial Paralysis. G. Roasenda.—p. 509.

Aphasia.—Mingazzini reviews and criticizes Henschen's recent publications on motor aphasia and agraphia. He compares them with others' and the work of his own school, to which Henschen pays tribute, saying "Mingazzini's Italian school builds on facts, not on theories."

Hemiatrophy of the Brain.—Todde adds another case to the few on record of acquired crossed hemiatrophy of both the cerebrum and the cerebellum. His patient was a man of 25, epileptic from childhood, and regarded as an imbecile, with hemiplegia of five years' standing. The left half of the cerebrum and the right half of the cerebellum were abnormally small.

Test of Facial Paralysis.—Roasenda calls attention to the sensation induced in the tongue when a continuous current is sent from the sternum to the back of the neck. In the normal, the sensation is bilateral, but it is absent on the side of facial paralysis. The location of the gap, as the electrode is moved up the spine helps to locate the nerves involved.

Boletin de Medicina y Cirugía, Guayaquil

January-March, 1922, **23**, No. 146-148

*Sporotrichosis Ulcers. A. J. Valenzuela.—p. 49.
*Headache of Ocular Origin. J. F. Rubio A.—p. 65.
*Autoserotherapy in Furunculosis. P. E. Zevallos Jijón.—p. 70.
*Atypical Forms of Pernicious Malaria. A. J. Valenzuela.—p. 88.

Vanishing of Yellow Fever.—A special notice in this *Boletin* is addressed "To the Civilized World" and calls attention to the official declaration of the national authorities that there has been no case of yellow fever at Guayaquil or in the whole country of Ecuador since May 22, 1919. The notice adds that the disappearance of this scourge should be heralded throughout the world, and the old tradition of the unhealthfulness of the tropics should be abandoned.

Sporotrichosis.—Valenzuela's study of this subject is profusely illustrated. His experience confirms the favorable prognosis under iodid treatment. The tumor is hard at first but soon ulcerates, the course resembling that of a syphilitic gumma. In the case illustrated, the lesions in the bones of hands and left ankle of three years' standing healed completely in a month. The primary lesion in the leg had developed after a cut on the foot.

Headache of Ocular Origin.—In addition to the headache from defects in refraction and migraine, Rubio warns that the vague pains in the eye itself from incipient glaucoma are often attributed to neuralgia or other cause. Precious time is thus wasted in acute glaucoma. Precocious presbyopia should always suggest possible glaucoma.

Furunculosis.—Zevallos Jijón gives the details of five cases of furunculosis in which autoserotherapy proved rapidly effectual. "Each person with furunculosis produces in himself the remedy for it." According to his experience, the autoserum should be less than twenty-four hours old. The course consists of four intramuscular injections of at least 2 c.c. each. This article won the prize offered by the Federacion de Estudiantes on the recent centennial of an important battle in the war for independence.

Atypical Forms of Pernicious Malaria.—In Valenzuela's case the symptoms suggested grave appendicitis, the tenth day after delivery of a stillborn child. Finally, after several negative examinations, the malaria parasite was found in the blood. The symptoms then subsided under quinin. This rousing by the childbirth of latent malaria is not uncommon in malarial countries, and the possibility should not be disregarded anywhere.

How Many Hospitals.—A letter from the editor of the Spanish Edition of THE JOURNAL to the editors of the *Boletin* is reproduced in facsimile. It asks for information in regard to the hospitals of Ecuador, as a list is now being compiled by THE JOURNAL of all the hospitals in Latin America.

Revista de la Asoc. Méd. Argentina, Buenos Aires

May and June, 1922, **35**, No. 211-212

*Suprarenalectomized Dogs. B. A. Houssay and J. T. Lewis.—p. 129.
Experimental Research on Oxytocics. S. Maldonado Moreno.—p. 138.
Action of Digitalis on Frog Heart. O. M. Pico.—p. 152.
Vagotomy in Guinea-Pigs. L. Giusti and B. A. Houssay.—p. 155.
Cardiography of Heart in Neck of Bull. L. Giusti and E. Hug.—p. 161.
*Precocious Hypergenitalism. Nerio Rojas.—p. 171.
*Grave Hemoptysis Arrested by Compression of Lung. A. Bergman.—p. 181.
Quinidin in Auricular Fibrillation. F. C. Arrillaga.—p. 188.
Scaphoid Scapula. M. Nonne.—p. 196.
*Priapism from Myelitis. M. R. Castex and A. Magnone.—p. 199.
Sequelae of Epidemic Encephalitis. G. Aráoz Alfaro and N. Rojas.—p. 209.
*Precocious Puberty. M. R. Castex and T. Malamud.—p. 223.
Puzzling Case of Hydatid Cyst of Liver. A. Gutiérrez.—p. 227.
Diverting the Urine for Urethra Operations. J. S. Pages.—p. 234.
Appendicitis or Torsion of Ovarian Cyst? C. I. Allende.—p. 242.
*Gastric Cancer in Boy. A. Galindez.—p. 249.
*Chronic Poliomyelitis. R. Chiappori.—p. 257.
Syphilitic Psychosis. G. Bosch and A. Mo.—p. 260.
*Venereal Disease and Saprophytism. S. Mazza et al.—p. 269.
Means to Reduce Infant Mortality. P. Rueda.—p. 275.
Ankylostomiasis in Northern Argentine Province. A. Bachmann.—p. 284.

Functions of Suprarenalectomized Dogs.—The experiments were made on nine dogs. They confirmed that the suprarenal medulla can be entirely removed from dogs, leaving only the cortex on one side, without impairing the health. Conditions seemed to be normal. The response to epinephrin and pituitary extract and the pupil reactions to cocain, atropin and epinephrin seemed to be the same as in normal dogs. But the animals died if the remaining cortex was excised.

Precocious Hypergenitalism.—Rojas' patient is a boy of 13 whose puberty dated from 6 or 7. It was normal except for its precocious appearance, and the mind is exceptionally bright as of a normal adult. At 9 he was 1.5 meters tall, but of an achondroplasia type, and he stopped growing for four years. Then under two months of combined thyroid, thymus, pituitary and suprarenal treatment he gained 1.5 cm. in height. Rojas ascribes the condition to simple hypertrophy of the testicle. There was no evidence of a tumor anywhere.

Hemoptysis Treated by Artificial Pneumothorax.—The tendency to hemoptysis seemed to be entirely arrested in the woman of 34 and the youth of 17 after the lung had been partially compressed. When the process is unilateral, a large amount of the gas should be injected at the one sitting, but with bilateral lesions, the amounts injected should be small and repeated.

Priapism from Myelitis.—The myelitis was in the sacral region of the man of 29, and the painful priapism was of six weeks' standing. Signs of inherited syphilis led to specific treatment, and under this the priapism subsided. Some small inflammatory reaction in the spinal cord in the sacral region was probably responsible for the priapism and the hyperesthesia. The character of the sensory changes excluded a lesion in the spinal nerve roots or cauda equina.

Precocious Puberty.—Inherited syphilis was evidently a factor in the precocious menstruation at the age of 8, defective vision, etc. At 12 the secondary sexual characters are those of an adult, and the various features of the development suggest that the pineal gland is responsible, some hydrocephalus process from the inherited syphilis, not a tumor.

Gastric Cancer in Child.—The first symptom was intense pain in the stomach region of the boy of 15. In a few days a tumor could be palpated and severe jaundice followed. The laparotomy the eighteenth day after the first symptom revealed inoperable malignant conditions, and the boy died the sixty-third day. Laird reported a similar case in 1921, with the death of the boy of 15 in two months. In both cases the gastric cancer was a cylinder cell epithelioma. Galindez compares these cases with Urrutia's 5 cases of cancer in patients between 22 and 26 and Ochsner's 10 under 30, the youngest 18; Mathieu's compilation of 32, and Bernoulli's of 12, one in a new-born child, one 8 years old, one 3, and 2 each at 15, 16, 17 and 19.

Chronic Poliomyelitis.—Chiappori reports a case of recurrence of the subacute phase ten years after an attack of poliomyelitis in infancy. After prolonged muscular exertion

at the age of 12 the left arm became paralyzed. He calls attention to the case as a warning that persons who have had poliomyelitis in childhood should refrain from excessive or repeated physical exertion at any time, as liable to bring return of paralysis in the predisposed region.

Gonococcus and Spirochete as Saprophytes.—This report was summarized when published elsewhere. Of the 110 clinically healthy prostitutes examined, the gonococcus was found in the vaginal secretion in 28 per cent. and the Wassermann test was positive in from 20 to 37 per cent. but no spirochetes were found.

Semana Médica, Buenos Aires

Aug. 17, 1922, **2**, No. 33

*Dilatation of Ureter. N. M. Gaudino—p. 329.
*Sympathetic Ophthalmia. J. C. Altube and P. Satanowsky.—p. 336.
Suggestions to Improve Public Health Service. M. Ruibal Salaberry.—p. 339.
Diathermy in Angina Pectoris. L. Ayerza et al.—p. 366.
Clinical Picture of Jaundice. A. Vitón.—p. 368.
Intraspinal Anesthesia. G. C. Palacios.—p. 370.
Teaching Backward Children. Manheimer Gommés.—p. 371.

Dilatation of Ureter.—Gaudino here reports 2 cases of permanent dilatation of the lower ureter and knows of 9 other cases, which bring to 29 the number on record. He gives the roentgenograms of his 2 cases, both in men. In one the dilatation was congenital; in the other it seems to be secondary to tuberculous prostatitis.

Sympathetic Ophthalmia Two Weeks After Enucleation.—After failure of arsphenamin Treatment, mercury rubs and intravenous injections of sodium salicylate were given, and the sympathetic ophthalmia gradually retrogressed in the young man. It had begun with optic neuritis, and it left some pigmentation and spots of fatty degeneration. To hasten reabsorption, arsphenamin was given again, but the second injection induced extravasation of blood around the disk, and vision declined from 1:4 to 1:6. The arsphenamin was suspended, and calcium chlorid was given internally, with subcutaneous injections of acacia solution, and in twenty days vision had improved to 1:3 and the eye cleared up. There was nothing to suggest syphilis in the case. The first eye had been injured by a scrap of metal when hunting.

Archiv für klinische Chirurgie, Berlin

Sept. 5, 1922, **120**, No. 3

*Braun's Skin Grafting. Wildegans.—p. 415.
*Operation for Gastroptosis. G. Perthes.—p. 441.
Surgical Anatomy of the Duodenum. F. Walcker.—p. 472.
Operations for Spinal Cord Tumors. E. Ranzi.—p. 489.
*Reconstruction of the Ear. J. F. S. Esser and G. Aufricht.—p. 518.
*Transformation of Bone. H. Triepel.—p. 526.
*Pylorus Region and Ulcer. W. Koennecke.—p. 537.
*Plastic Linitis. W. Goldschmidt.—p. 551.
*Esophagus Cancer. F. Starlinger.—p. 562.
*Angiomas in the Bladder. A. Hübner.—p. 575.
Etiology of Schlatter's Disease. W. Rieder.—p. 588.
*Staphylococcus Hemolysis Test. G. Rosenburg.—p. 602.
Purulent Vertebral Osteomyelitis. O. Stahl.—p. 626.
*Testicles After Ligation. E. Gohrbandt.—p. 637.
Diagnosis of Projectile in Heart. J. Hagen-Torn.—p. 647.
Origin of Thrombi in Leg Veins. N. Trinkler.—p. 653.
Primary Actinomycosis of Kidney. P. Kleinschmidt.—p. 658.
Knotting Cystic Duct to Occlude It. A. H. Hofmann.—p. 662.

Skin Implants.—Braun's method of skin grafting by implanting scraps of skin directly in the newly forming cells was summarized in these columns, June 4, 1921, p. 1621. The scraps, 2 to 4 sq. mm., are cut like Thiersch flaps, and are implanted slanting in the granulations, like seedlings. Sometimes in a few days, as a rule in three weeks, after two or three grafting sittings the skin heals over completely. Wildegans here describes the histologic processes involved in this procedure, which, he says, is excellent, and has the advantage that it can be applied even to pus-covered surfaces.

Gastroptosis.—Perthes' analysis of cases of gastroptosis has convinced him that in the majority the symptoms are the result of stenosis from kinking of the duodenum between the superior and the middle portions. Stasis in the bile ducts resulting from this may entail severe disturbance. All of this can generally be corrected by pulling up the sagging stomach and fastening it to the left costal arch. He uses the round ligament of the liver for this, cutting it at the umbilicus and quilting it lengthwise in and out along the lesser curvature, and thus suspending the stomach in its natural place and restoring its natural shape. The technic is illustrated as applied in 23 cases including 4 men. In 9 of the cases under observation for more than a year, 7 were completely cured and 2 materially improved. One of 17 kept under observation was not benefited and 3 only slightly improved, but 11 were cured and 3 essentially benefited. Roentgenoscopy explains the failures as due to defective peristole; in this class of cases some supplementary measure may be necessary. In one case in which the disturbances had persisted after a gastro-enterostomy, this supplementary gastropexy cured the patient at once and permanently.

Reconstruction of the Ear.—Esser takes a cast of the surface, applying the dentists' technic. He then covers with Thiersch flaps the cast thus obtained, and fits the cast back into place on the surface or cavity in question. The Thiersch flaps grow rapidly to the surface against which they are thus evenly and continuously pressed and protected. When the cast is removed in two or three weeks, the surface is covered smoothly to the edges with epithelium. In reconstruction of the ear, a cartilage frame has to be supplied first, as he describes with illustrations. This cast-flap technic is called the *epithel-einlage* method.

Architecture of Spongiosa Bone.—Triepel discusses from a new standpoint the transformation of spongiosa.

Origin of Gastric Ulcer.—Koennecke insists that the factors responsible for gastric ulcer are numerous and varied, but the primary factor is always some nutritional disturbance. His experimental research on dogs has demonstrated this, he says, and explains the reciprocal relations between exclusion of the pylorus and ulceration. The pylorus portion of the stomach has an important function beyond its motor function. It secretes a hormone which regulates the secretion of gastric juice. This hormone may act through the blood or by reflex nervous action. When it is lacking, the gastric digestion ferments are secreted in amounts and potency which are excessive for the food at the time. This excessively profuse and strong gastric juice irritates, and ulceration may follow.

Plastic Linitis.—The operation on the woman of 45 had been done on the diagnosis of the tumor that was plainly palpable and presented when the abdomen was opened. Cancer had been assumed, but when the stomach was drawn forward the tumor melted away, the stomach stiffening out into a straight tube. The tumor had been a spastic phenomenon in the malignant disease of the stomach. The infiltrating carcinoma was of the colloid cancer type, and the patient died four months after the subtotal resection of the stomach.

Primary Cancer of the Esophagus.—Starlinger reviews 132 operative cases at Eiselsberg's clinic. In 66 per cent. the malignant disease had not spread. In 18.3 per cent. an inherited predisposition was evident. There was only one female to twenty-one male patients in these esophagus cancer cases.

Hemangioma of the Bladder.—Hübner's experience has convinced him that radical measures are imperative for a bladder angioma. The frequent destructive growth and metastasis and the danger of exhausting hemorrhage justify suprapubic operation, if the symptoms resist thermocoagulation. The incision allows thorough oversight of multiple angiomas. A colored plate shows the findings in a girl of 11 with multiple angiomas in the bladder. Some were excised and the others cauterized through a suprapubic incision. Six weeks later severe hematuria returned, and the cystoscope showed some new angiomas. They were treated with thermocoagulation and the child has had no further disturbance during the month since. She had been healthy till the age of 6 but since then had had more or less blood constantly in the urine. A congenital tendency seems plausible in this and in the cases on record.

Antistaphylolysin Reaction.—Rosenburg ascribes considerable importance to the hemolysis test in staphylococcus infection. It is solely a test for diagnosis, and his experience with seventy-five cases confirms that all staphylococcus affections give a positive response except small furuncles and felons.

It is especially valuable as an aid in differentiating chronic disease in bone, as it distinguishes between osteomyelitis and tuberculosis or tumor. Bouillon with trypsin is a good culture medium for the staphylococci to obtain the staphylolysin. Horse serum, diluted fivefold with salt, has the same action on the hemolysis as normal human serum.

Behavior of Testicles After Ligation of Vessels in Spermatic Cord.—Gohrbandt omitted the ductus deferens and the deferential artery from the ligation, in his experiments on rabbits, but the testicles became partially or entirely atrophied and function seemed totally lost even in the islands of apparently normal tissue.

Deutsche medizinische Wochenschrift, Berlin

Sept. 8, 1922, **48**, No. 36

Living Tubercle Bacilli in Treatment of Tuberculosis. Selter.—p. 1195.
Theory of Irritation, Theory of Evolution and the Problem of Constitution. L. Borchardt.—p. 1197.
Carbohydrate Metabolism in Liver Disease. G. Hetényi.—p. 1200.
One Twin Fetus in Uterus and one in Tube. A. Sippel.—p. 1202.
Specific Intracutaneous Treatment. H. Schulte-Tigges.—p. 1203.
Nonspecific Treatment of Chronic Affections of the Muscles and Joints. F. Peemöller.—p. 1205.
*Pancreatic Achylia. N. Roth and F. Sternberg.—p. 1207.
Amblyopia of Toxic Origin (Tobacco, Alcohol) Before, During and Since the War. F. Jendralski.—p. 1207.
Experimental Research on Syphilis. Leven.—p. 1209.
Rapidly Progressive Syphilis. W. Kowalski.—p. 1210.
*Treatment of Psoriasis with Thymus Extract. B. G. Gross.—p. 1211.
*Indications for Artificial Pneumothorax. W. Ebert.—p. 1211.
Operation for Umbilical Cord Hernia. N. Ellerbroek.—p. 1213.
Use of the Ophthalmoscope. G. Abelsdorff.—p. 1214.

Pancreatic Achylia.—Roth and Sternberg give the results of their investigations with the Einhorn duodenal tube to determine whether there is such a thing as functional pancreatic achylia, and if so, whether it is connected with gastric achylia. The patients chosen were suffering from genuine hyperchromic, Biermer anemia, in which gastric achylia is constant. In not one of the six achylia patients did they find a lack of pancreatic ferments. If anything, there was hypersecretion. Along with comparatively low trypsin values they found relatively high diastase values, and vice versa. There was no evidence of a parallel fluctuation as assumed by Bondi nor of constant high diastase values with low trypsin content. Also Krieger found, previously, pancreatic ferments always present in ten cases of gastric achylia. Schoening, however, found an absence or a deficiency of pancreatic secretion in twelve out of sixty-five cases. Roth and Sternberg are convinced that functional pancreatic achylia, if it exists at all, is extremely rare.

Treatment of Psoriasis Vulgaris with Thymus Extract.—Gross brings a preliminary report of his success in treating psoriasis with thymus extract. He gave intramuscular injections of thymus extract into the buttocks every other day. He began with 1 c.c. doses (1 gm. of thymus), and increased up to 6 c.c. (6 gm. of thymus). Later stronger extracts, 2 gm. of thymus to 1 c.c. and even 5 gm. to 1 c.c. were employed. For treatment he chose severe, stubborn cases. After the first few injections it was observable that the manifestations retrogressed markedly. Hard, raised infiltrations became paler and softer, and flattened out more and more, finally disappearing. Only one patient complained of a slight headache on the day of the injection. From 8 to 14 injections, or about 20 to 30 gm. of thymus, were required to cause the eruption to disappear. It remains to be seen whether the cure will be permanent. The trials of the remedy are being continued.

Indications for Artificial Pneumothorax in Pulmonary Tuberculosis.—Ebert argues that many advantages will be derived from the cautious extension of the indications for artificial pneumothorax so as to include many of the milder cases. A large number of patients who, with other methods would require a long course of treatment, can be advantageously treated by artificial pneumothorax. Of his 263 female patients during 1921, 15.7 per cent. of those in the second stage were practically sound in the better lung; of those in the third stage, 8.3 per cent. If applied to milder cases, the application of pneumothorax will be successful in a higher percentage of cases, since fewer adhesions are present, since these increase with the gravity of the disease. The patients are in better general condition when treatment is begun, the condition is more favorable, and the growth of connective tissue is better, owing to the less advanced destruction of the lung tissue. Empyema and unfavorable exudates occur less frequently since the pleura is less severely damaged. A large percentage of the open infectious cases are discovered and rendered harmless. The procedure requires a shorter time than in the severe cases. Complete recovery is attainable in a larger number of cases. The reexpansibility of the lung has not yet become impaired beyond recovery since destruction of tissue is not far advanced.

Wiener Archiv für innere Medizin, Vienna

July 25, 1922, **4**, No. 2-3

Acid-Base Conditions in Tetany. H. Elias and F. Kornfeld.—p. 191.
*Vasomotor Reflex from the Aorta. E. Zak.—p. 209.
Amino Nitrogen in Blood Serum. M. Landsberg.—p. 235.
*Functioning of Peripheral Vessels. S. Peller.—p. 247.
*Meningitis Due to Gas Bacilli. W. Raab.—p. 267.
*The Stomach in the Recumbent. K. Hitzenberger and L. Reich.—p. 279.
*Acute Serous Meningitis. R. Löwy.—p. 305.
*Bronchial Asthma. H. Faschingbauer.—p. 349.
*Dynamics of Intravenous Injections. J. Hirschsohn and H. Maendl.—p. 379.
*The Cheyne-Stokes Syndrome. S. Wassermann.—p. 415.
*Herpes Zoster. A. Arnstein.—p. 441.
The Minimal Arterial Pressure. H. Sahli.—p. 475. Reply to Peller.
Experimental Research on Human Blood. O. A. Rösler.—p. 503.
Research on Cerebrospinal Fluid. A. Kirch.—p. 521.
*Pituitary Cachexia. W. Knoll.—p. 555.
*Lymphogranulomatosis. B. Grossmann and F. Schlemmer.—p. 573.
Case of Zenker Diverticulum. L. v. Aldor.—p. 595.
*The Purpura Question. M. Rosenmann.—p. 597.
*Creatinin Metabolism. U. Sammartino.—p. 609.

Vasomotor Reflex from the Aorta.—Zak noted in certain patients a crescent shaped zone of red skin on the upper chest, extending from just above the point of the shoulder to the upper sternum and upward to the neck. The first impression is sunburn above the neck of a bathing suit, but the subjects had not been exposed to the sun for years, if ever. Analysis of the cases showed that this half-moon redness was a sign of disease of the aorta. He gives the details of thirty cases out of a much larger experience. In fifty-two cases of disease of the aorta, encountered in the last year, this half-moon sign was very pronounced in 28 per cent. but it was absent in a similar proportion, and more or less manifest in the others. Rubbing the skin in this region with a brush elicits an abnormally intense response with aorta disease, even in the absence of the half-moon sign, testifying to the overexcitability of the vessels. This may be apparent even in remote regions. His research has thus established the existence of a viscerovasomotor reflex, in addition to the viscerosensory and visceromotor reflexes with which we are familiar.

Reactions of Peripheral Vessels.—Peller emphasizes the variability of the response of the peripheral vessels to different external stimuli. It varies from case to case and from time to time in the same case, but the responses can all be classed in four groups.

Gas Edema Bacillus Meningitis.—Raab's patient was a young woman who developed sudden and intense headache, weakness and vertigo on the way home from a dance; intense pains and contracture of the back muscles followed, with other symptoms of severe hemorrhagic meningitis. The gas edema bacillus was cultivated from the spinal fluid and blood, but improvement became evident the twentieth day, and she was dismissed from the hospital as cured the thirtieth day. In all the other cases on record the infection was explained by otitis or trauma of the skull, but in this case no portal of entry for the bacteria could be discovered. The clinical picture indicated both meningeal irritation and toxic injury of the central nervous system.

Deceptive Hour-Glass Stomach Roentgen Findings.—A number of roentgenograms are reproduced to show and explain the hour-glass shape which the normal stomach shadow may assume during recumbency. The portion lying across the spine is lifted up, and casts little if any shadow.

Acute Serous Meningitis.—Löwy gives the conclusions from study of 350 cases of serous meningitis, with 425 lum-

bar punctures. His tests with hexamethylenamin confirmed that the cerebrospinal fluid is a secretion in normal conditions, but when the meninges are diseased, it becomes more of a filtrate. In all the cases, from the mild forms of meningism, and pseudomeningitis to the severe serous meningitis, the puncture fluid testified to biologic injury of the cerebral pia. When severe, the sediment confirmed this. The findings emphasize that the term, acute serous meningitis, falls short of expressing the condition in part of the cases, and in others expresses too much. In all infectious diseases with nervous disturbance, acute serous meningitis of the pia is evident. It ranges from simple toxic irritation of the vessels to severe injury of the vessels and plastic infiltration of the pia, all of which can be read from the lumbar puncture findings if properly interpreted. He tabulates the findings in various groups, and discusses the literature, giving four pages of titles set solid.

Asthma.—Faschingbauer relates that the necropsy findings published from 12 cases of bronchial asthma showed in all vesicular emphysema of the lungs and tough masses of mucus, or threads or clumps of degenerated epithelium, and in the chronic cases round cell infiltration of the mucosa and peribronchial tissue, with hyperemia of the vessels and minute hemorrhages. The other findings differed in different cases. In a case personally observed, in a man of 47, with nephritis and a syphilitic spinal cord affection, there had been twenty-six attacks of asthma during the three weeks before the man succumbed to cerebral hemorrhage. The walls of the smaller bronchi showed pronounced hypertrophy, with extreme contraction of the bronchial musculature. The contents of the bronchi, on the other hand, were normal, but these changes had induced diffuse stenosis of the bronchioles, infiltration of the wall and minute hemorrhages. The contraction of the musculature has never been described in other cases. The lack of eosinophil cells, spirals, crystals, etc., in the bronchial contents seems to deny much causal import to such findings. The case sustains the spasm theory of asthma, and offers a satisfactory anatomic basis. The case is interesting, further, from certain fibers of smooth muscle found in the septi between the alveoli and rendered manifest by their hypertrophy.

Dynamic Phenomenon with Intravascular Injection.—This article is a study of the sensation of heat which is experienced when calcium is injected into a vein. The phenomenon is complete in thirty seconds, and was studied on eighty-five subjects—a total of 550 injections. It throws light on the circulation in general, and especially on the dynamics of intravascular therapeutics.

The Cheyne-Stokes Set of Symptoms.—Wassermann analyzes the symptomatology, clinical position and treatment of the "Cheyne-Stokes." He emphasizes the importance of the psychic element in the clinical picture.

Herpes Zoster and Internal Disease.—Arnstein has already published instances of herpes zoster developing as the only appreciable manifestation of some otherwise latent internal disease. He here compares the findings in thirty-six cases of herpes zoster with 180 from the records, with six pages of bibliographic titles. He incriminates some specific virus localizing in one or more of the spinal ganglia. This assumption of its infectious nature is sustained by the prevalence at certain periods and in certain places, and the immunity left usually by a single attack. In a certain proportion of cases it is symptomatic, and is thus relatively frequent in nervous affections, and with disease of the lungs, liver and kidneys, while it is rare with digestive, genital and heart disease. Its location generally corresponds to the organ affected primarily.

Pituitary Cachexia.—In Knoll's compilation of nineteen cases, twelve of the patients were women. In a case personally observed, the condition in the young man had been masked by the pulmonary tuberculosis and tuberculous meningitis. The triad of symptoms was pronounced, however: the premature senility, falling of the hair and decline of genital function, with corresponding mental decline. Embolism of an artery in the anterior lobe of the pituitary seems to be the primary factor, and the Abderhalden reaction to anterior lobe substance may aid in diagnosis. A tuberculous process in the pituitary may be responsible, and this is probably more common than generally recognized.

Lymphogranulomatosis.—In the case reported, the man of 41 had been healthy until 1914 when apical tuberculosis developed but yielded to sanatorium treatment. The lymphogranulomatosis appeared in 1919 and the infiltration was followed by necrosis and then by ulceration at all the points involved in skin, throat and stomach. The bacteriologic findings were negative.

The Purpura Question.—Rosenmann reports two cases of purpura in the course of chronic tuberculosis, with almost total lack of thrombocytes. Improvement followed treatment with horse serum, but the thrombocyte figure did not increase, although the walls of the vessels became more resistant. The tuberculosis had evidently led to demineralization, and when the calcium salts predominate, coagulation is retarded.

Creatinin Metabolism.—The research was done in a case resembling pseudosclerosis.

Zeitschrift für Urologie, Leipzig

1922, **16**, No. 10

*Histogenesis of Prostate Hypertrophy. R. Honegger.—p. 425.
Transperitoneal Nephrectomy. R. Pamperl.—p. 441.
*Rinsing of the Bladder After Prostatectomy. F. Suter.—p. 449.
*Suppuration in the Kidney. K. Scheele.—p. 452.

Recurrences After Prostatectomy.—Honegger relates that a number of small nodules had developed in the bed after enucleation of the prostate. They had evidently developed from the capsule left by the operation. The microscope showed that this capsule consisted of prostate tissue, pressed peripherally flat. This explains the recurrences after prostatectomy, even after removal of the prostatic portion of the urethra and encircling glands.

Continuous Irrigation of the Bladder After Prostatectomy.—Suter prepares for the operation by introducing a retention catheter and keeping the patient in bed for several days before the operation. This is to accustom him to the catheter. He prefers to anesthetize the prostate through the incision in the bladder, and leaves the retention catheter in place while the prostate is being shelled out and the bed drained with wick and stout tube. The bladder wall is sutured around them, and a douche can, with drip device, is connected with the retention catheter as for enteroclysis. The wick and tube are removed the fourth day, and a smaller tube used, and the irrigation is kept up for two or three days longer. Then the bladder is sutured and the retention catheter used merely as a drain. Clots cannot form, and the fluid flowing from the bladder wound reflects the healing process. After removal of the wick, the bed of the prostate is thus washed clear of secretions and necrotic tissue. Among the first twenty thus treated there were three deaths, but only one among the eighty of the later series. Healing was complete in from five to eighty-one days. He ascribes two of the four deaths to inadequacy of the preparation for the operation.

Suppuration in the Kidney.—Scheele examines the ureter urine in the counting chamber. In normal kidneys, he never found over thirty leukocytes in the counting chamber, but with suppuration they run up to 500, 1,000, 10,000 or more. If there is much blood in the urine, he stains it in the reagent glass with methylene blue. A difference of or below 20 per cent. in the count from both ureters must be disregarded. In pronounced cases, the difference in the leukocyte figure was from ten to 500 times more on the diseased side. With tuberculosis, the difference was very pronounced, up to ten and hundred-fold, even in the incipient cases, sometimes before the stain functional tests gave positive findings.

Zentralblatt für innere Medizin, Leipzig

July 1, 1922, **43**, No. 26

*Cholesterin Content of the Blood. H. Strauss and W. Schubardt.—p. 425.

The Cholesterin Content of the Blood Serum.—Strauss and Schubardt devote nearly ten pages to a tabulation of the results of research on the cholesterin content of the blood

serum in various diseases (160 cases). They employed the method of Autenrieth and Funk. The highest values for blood cholesterin were found in cases of nephrosis. They found frequently up to 500 mg. in 100 c.c. of blood serum. The high values of cholesterin that occasionally occur in acute and also in chronic diffuse glomerulonephritis point to an involvement of the tubuli. Contracted kidneys always showed low values. There was no constant relationship to the amount of nonprotein nitrogen. Primary high blood pressure showed low values. Icterus and other affections of the liver showed frequently but not always an increase of the cholesterin content of the blood. Blood diseases showed low values. In association with pregnancy, all diseases showed an increase of cholesterin in the blood. Whether cholesterin can be produced in the body or not, is not yet settled. Such origin plays a small part compared with the amount ingested with the food. Inanition and disturbance of intestinal resorption may cause a decrease of the cholesterin content of the blood.

Acta Scholae Medicinalis Univ., Kioto

Jan. 25, 1922, **4**, No. 3. German Edition

Anatomy of Central Nervous System in the Japanese. III. Shimada.—p. 319.
Pharmacology of "Senso" (from Frog Skin). III. Kodama.—p. 355.
Derivatives of Tyrosin in the Organism. Y. Takenaka.—p. 367.
Electric Reactions of Spermatic Cord in Mammals. Goharo.—p. 379 and p. 435.
Pharmacologic Action of Kosotoxin. G. Tamba.—p. 393.
Action of Cocain on Smooth Muscle Organs. A. Nagamachi.—p. 409.
Pharmacology of Santonin. II. H. Oshika.—p. 421.
Mode of Action of Salts of Aliphatic Acids. K. Okushima.—p. 451.
Pharmacology of Phloroglucin. M. Akamatsu.—p. 463.

Japan Medical World, Tokyo

September, 1922, **2**, No. 9

Filariasis. Z. Kawakami.—p. 251.
*Intra-Uterine Vaccination. T. Ohtawara.—p. 254.
*Examination of Blood in Typhoid. J. Senshu.—p. 258.

Intra-Uterine Vaccination Against Smallpox.—In order to determine the possibility of intra-uterine vaccination, Ohtawara vaccinated pregnant rabbits to see if the new-born rabbits had acquired an immunity against variola. The finding was positive. The immunity of the new-born rabbits is an active one. Hence, Ohtawara says, the theory of the invasion of the calfpox virus into the circulation is proven.

Early Diagnosis of Typhoid from Blood Culture.—Senshu uses a glycogen medium containing glycogen, 20 gm.; sodium chlorid, 5 gm. and water, 100 c.c. for culturing the typhoid bacillus from the blood of typhoid patients during the first week of the disease; 2 c.c. of the patient's blood is sufficient for 5 c.c. of the medium. This method is very simple and cheap and can be used at any time and anywhere and it is just as efficient as the bile method, he declares in conclusion.

Polska Gazeta Lekarska, Lemberg

June 18, 1922, **1**, No. 25

Cancerous Degeneration of Tissues. T. Browicz.—p. 509.
Strangulated Hernia: Reduction or Radical Operation? Lacewicz.—p. 511.
A Sarcomatous Angioma of Liver and Spleen. L. Skubiszewski.—p. 513.
Neosalvarsan Made in Poland. L. Hirschfeld.—p. 515.
*Lasègue's Symptom in Sciatica. J. Chmielewski.—p. 515.
Colloid and Protein Therapy. R. Renecki.—p. 517. Conc'n.
*Fighting Tuberculosis. Pawelec.—p. 528. Conc'n in No. 26.

Lasègue's Symptom in Sciatica.—Chmielewski describes some little known variations of Lasègue's symptom, and emphasizes their importance in distinguishing between true and factitious sciatica.

Fighting Tuberculosis.—Pawelec here says: "When we look over the pages of French, English and German literature, medical as well as nonmedical, discussing different ways and means for combating the white plague, and compare their great interest on this very important question with our unbearable quietness, as seen from the pages of our own literature and among our medical profession—one would be led to think that Poland must be immune to tuberculosis. But this is quite contrary to the truth." He then outlines the history of the campaign against tuberculosis in different countries, and gives suggestions for ways and means which the Polish government ought to take in order not only to fight recent cases of tuberculosis, but to prevent it from spreading. "The fight with tuberculosis means betterment of the social conditions of the population of the country."

Reports of Dutch-Indian Medical Service, Java

1922, Part 2. English Edition

*Public Health Service in Netherlands India.—p. 81.

The Public Health Service in Netherlands India.—This report covers 1919. It is in English and illustrated. It states that malaria was responsible for 18.2 per cent. of the admissions to the hospitals, and it ranked fifth as a cause of death. The mosquitoes incriminated for the endemic malaria are *Myzomyia ludlowi* and *Myzomyia aconita*. The latter breeds in fresh water. The ludlowi is found only on the coast as a rule, but it has been found in the interior in Sumatra, in fresh water fish ponds. Twenty-five reports of research and extensive preventive work were published by the officers of the service during the year.

Norsk Magazin for Lægevidenskaben, Christiania

October, 1922, **83**, No. 10

*Nonhemolytic Chronic Jaundice. S. Laache.—p. 745.
*Hernia of Umbilical Cord. O. Semb.—p. 778.
*The Hemoclastic Crisis as Liver Test. E. Dahl.—p. 782.
*Vasomotor Changes with Heart Disease. C. Müller.—p. 802.

Nonhemolytic Chronic Jaundice.—Laache summarizes 16 cases in men and 15 in women in which the chronic or subchronic jaundice was traceable to some organic lesion. In 14 there was malignant disease in or near the bile passages; in 2 gallstone obstruction; cirrhosis of the liver in 2, and one patient with what seemed to be catarrhal jaundice improved under treatment. Eleven pages are devoted to tabulation of the 31 cases for comparison, and cases are cited from the literature in which jaundice had persisted for twelve and twenty years without much impairment of the general health. Periods of improvement may be observed even in the course of cancer.

Rupture of the Umbilical Cord.—In Semb's case the child was born with extensive hernia at the umbilicus. When notified by telephone by the midwife he told her not to bathe the infant and not to wash the abdomen. He reached it in time to operate by the sixth hour, with special caution not to allow any chilling. The hernia was as large as a hen's egg, and a protruding portion proved to be a prolapsed Meckel diverticulum 2 or 3 cm. long with a fistula connecting it with the small intestine. The diverticulum was resected and the rest of the bowel reduced and the abdominal wall sutured. He has found only two similar cases on record.

Widal's Liver Test.—Dahl has been applying the hemoclastic crisis test in fifty men, women and children with or without liver disease. He recorded the leukocyte curve in twenty-two other persons who did not take the test 200 gm. of milk. The findings were so contradictory that he is inclined to deny practical value to the test. The leukocytes increased in some of those with liver disease and dropped in others. The leukocyte count seems to fluctuate irregularly from minute to minute even in fasting individuals kept absolutely quiet.

Action of Vasomotors During Chronic Insufficiency of the Heart.—Müller's statements in regard to the drop of the blood pressure during sleep were summarized in these columns, Dec. 24, 1921, p. 2100. The difference between the day and the night pressure is greatest when the pressure is abnormally high; in normal conditions it averages 5 mm. In the present communication he reports the findings in twenty-two cases of valvular disease, and in eight with other mild heart disease—all well compensated. The drop in the blood pressure averaged the same as in health. In ten other patients with grave insufficiency of the heart the blood pressure kept at about the same level night and day. He ascribes this to greater stability of the vasomotors, and explains it as a compensating process on the part of the vasomotors.